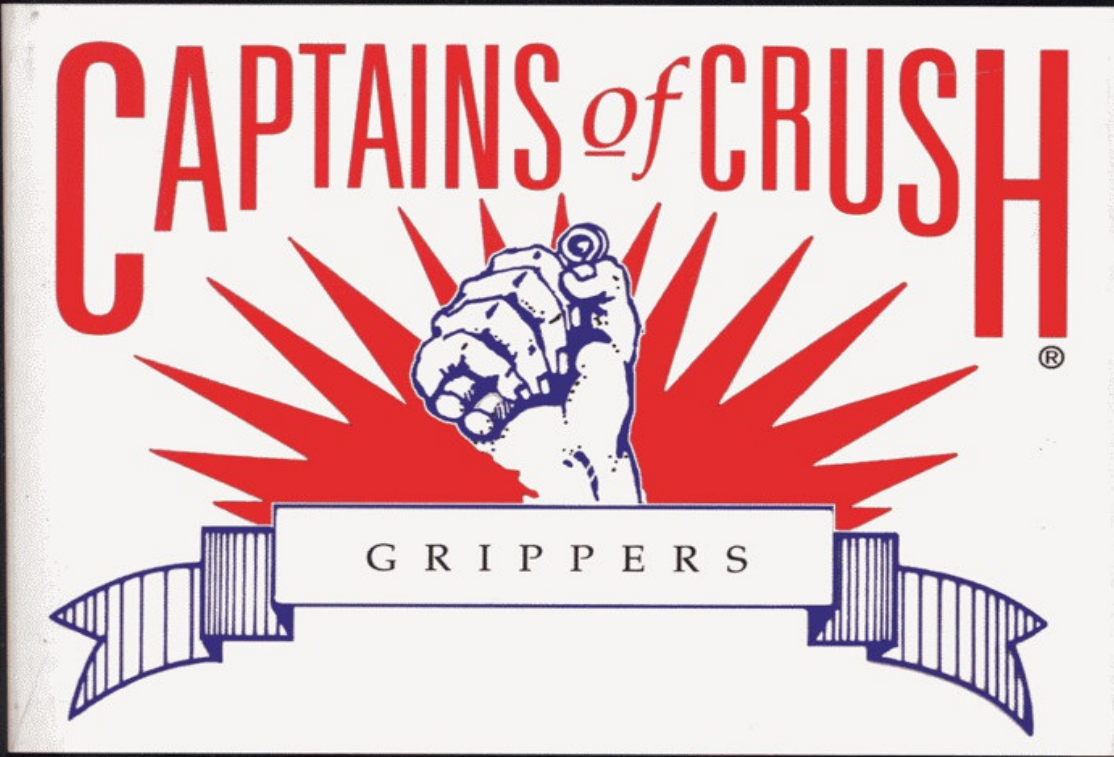
CAPTAINS OF CRUSH® GRIPPERS: What They Are and How to Close Them



Randall J. Strossen, Ph.D.
J. B. Kinney
and
Nathan Holle

Foreword

Hand strength has always held a special place in the overall strength world—in fact, one can even argue that it has traditionally received disproportionate attention. The classic and peerless bodybuilding author John McCallum once observed that, "The odd and pleasant thing you'll find is that gripping stunts are viewed by the general public out of all proportion to their actual difficulty ... If you want a reputation as a strongman without going to too much trouble, a vise-like grip is the quickest and surest way to it." Even given extreme examples along this line though, the case for strong hands and the good reasons to admire and pursue them is easily made.

In the days before barbells, a man's strength was measured by his mastery of unwieldy objects, many of which required an inordinately strong grip, and strong hands were the natural byproduct of days filled with manual labor of many kinds. As things progressed, the early barbells and dumbbells often had thick handles— partly of necessity and partly to thwart those who tried to lift them—which made mighty mitts a vital element if one were to succeed as a strongman. Even later, with the advent of highly efficient, wonderfully engineered barbells, one's hand strength could limit what one could hoist on something that really was a test of overall body strength or power, not an isolated test of hand strength.

Thus, for example, Olympic-style weightlifters use a hook grip because a conventional grip, let alone a thumbless grip, does not allow them to exert the full power of their legs and backs as they pull against the bar, and more than one deadlift—and title—has been lost because the lifter could not hang onto the bar.

The popularity of hand strength is also easily understood when one considers the breadth and seriousness of its applications: you might need it to open a jar in the kitchen, or it might make the difference between victory or loss on the athletic field, or the difference between life and death in combat or dangling off a cliff, for example. Since its founding in 1988, IronMind® has been heavily involved in the world of grip strength, and we were quickly recognized as the worldwide leader in the field. We design and sell specialized pieces of grip training equipment, we publish the leading books on the subject, we promote the world's top grip people, and in recent years, we have been credited with spawning a minor industry based on the grip-related work we have been doing for the last decade and a half.

Given all the different grip training tools we sell and given the myriad reasons for being interested in greater grip strength, it might be surprising that we always counsel people to start on their road to stronger hands equipped with two vital tools: John Brookfield's book *The Mastery of Hand Strength* and our Captains of Crush® grippers. It's because our grippers are such a central part of everyone's training that we felt it was about time for us to roll up our sleeves and tell you their story—both what they are and how to close them. For the latter task, mashing these beasts, we enlisted the aid of proven masters Joe Kinney and Nathan Holle.

In the 1990s, everything under the sun was called an icon, just as nearly every muscle book offered was touted as a future classic, even though few things getting either label really deserved the designation. Captains of Crush grippers are one of the exceedingly few Iron Game products that actually achieved this status, as they truly became an icon—representing the gold

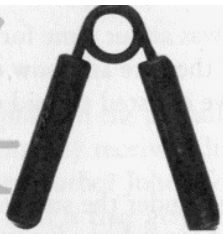
standard not just of grippers, but also for building and testing hand strength: they have inspired everything from Internet sites to me-too products to the bonds of real flesh-and-blood friendships. They have also been the stuff of deep frustration as people sought to conquer them, and of the loftiest sense of accomplishment when people succeeded in mashing whichever Captains of Crush gripper they targeted.

Captains of Crush grippers are used by people who seek a firmer handshake, want to improve in a recreational sport, or know that their survival might depend on the strength of their hands, and they have also served as a tool of redemption and as a means of developing a sense of personal efficacy: many are the people who have used a Captains of Crush gripper to set goals, work hard, and then achieve what previously had been beyond their grasp. Sure they closed a tough gripper as a result of their focus and their efforts, but going far beyond that, they developed a sense of self-worth and mastery that they carried forward into other walks of their lives. Later in this book, you will read about the certification program we developed for our toughest grippers, and we have piles of intensely personal testimonials from people who describe their success with Captains of Crush grippers as being their biggest accomplishments, a driving force leading to forming their closest friendships, altering their lives, and the like. It's an amazing process, and this journey is available to everyone.

It's no wonder that people take such a deep and personal interest in our grippers —their grippers—so to all of you who sleep with these gems under your pillows, whose days are filled with hard work aimed at mastering them, and whose nights are filled with thoughts of succeeding beyond your wildest dreams, this book is for you.

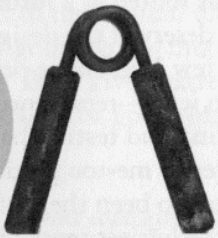
As ever, train safely, wisely, and hard.
Randall J. Strossen,
Ph.D. IronMind Enterprises,
Inc. Nevada City, California

1964



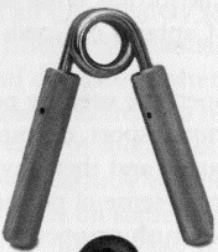
Original steel-handled
Iron Man gripper

1990



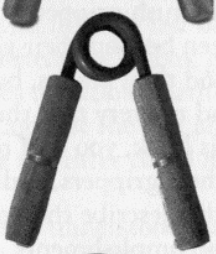
Black-handled IronMind gripper

1991



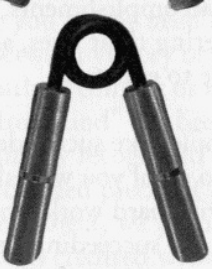
Original chrome-plated
Silver Crush™ gripper

1993



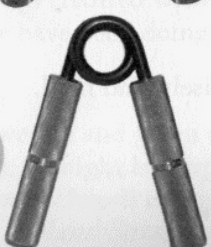
Stainless steel-handled
Silver Crush™ gripper

1995



Aluminum-handled
Captains of Crush® gripper

2003



State of the art
Captains of Crush® gripper

Part I - Captains of Crush® Grippers: What They Are

by Randall J. Strossen, Ph.D.

Chapter 1: Family Roots and Evolution Toward Perfection

INTRODUCTION

Captains of Crush grippers are recognized around the world as the gold standard in grippers, and closing the No. 3 Captains of Crush gripper is the most universally recognized measure of a world-class grip—impressive credentials by any stretch of the imagination. And while most people are content to squeeze the daylights out of their Captains of Crush grippers, other people like to examine them, talk about them, ponder their whys and wherefores, and discuss their history. We have always recommended putting your energy into training rather than into talking, but we fully understand the magnetism of these little beasts, and we appreciate the interest in our unique grippers, so we'd like to take the time to tell you a couple of things about what they are, as well as what they are not.

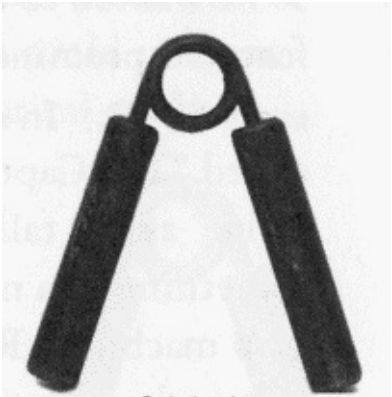
Over the years, we have heard some interesting stories about our grippers—some true and some false. And even though we have been in this business since 1988 and certainly know our grippers better than anyone else does, as sometimes happens with a popular product, other people have been the most outspoken about them. We have had some concerns about this practice since some people who are new to the field and have no connection with IronMind Enterprises, Inc. have talked about everything from "double threes" to "phantom fours" as if they were authorities on the subject and as if they were fully informed on general gripper basics, not to mention all the details related to our grippers specifically. In addition to these knowledge-based problems, we also found that some of the self-appointed spokesmen for our grippers were clearly biased

by their egos and/or economic interests. Nonetheless, we like enthusiasm, and because we also value both knowledge and honesty, we would like to tell our own story, addressing some myths and misstatements we have heard along the way.

ROOTS

Our Captains of Crush grippers are the result of over a decade and a half of our dedication to advancing—if not perfecting—traditional nut- cracker-style hand grippers, and while we are the established leader and are viewed as pioneers in this field, it is important to recognize the role played by Warren Tetting. Warren made the original *Iron Man* grippers that initially inspired me nearly forty years ago. These grippers were first advertised in the December 1964 issue of Peary Rader's Iron Man magazine, and I bought one shortly thereafter. A far cry from anything you'd find in a sporting goods store, these grippers immediately won over strength enthusiasts, and stories began to fly about who could or couldn't close which gripper. Then, as now, tall tales mixed freely with the facts, but as long as nobody took the charlatans too seriously, everyone had a good time trying to mash these beasts.

Those early *Iron Man* grippers were as rugged in appearance as they were hard to close, and while they were known to vary somewhat in appearance, geometry, available strengths, and whether or not they had certain features, all of them made quite an impression on some of us, and I am lucky enough to still have my original gripper.



Original *Iron Man* gripper.

In the late 1980s, after years of being a fan at the fabled Petaluma World Wrist Wrestling Championships, I decided to compete and as part of my training, I not only pulled out my old gripper, but as things developed, contacted Warren Tetting and not too much later, IronMind began selling what initially was a reintroduction of those old *Iron Man* grippers. Heavy-duty hand grippers are a specialty item, but even with their narrow market, we wanted other people to share our appreciation for these little bruisers, so I began to write about them and to publicize the top grip guys of the day as we continued our close collaboration with Warren.

RICHARD AND JOHN

It was back in these earliest days of IronMind selling grippers that I was introduced to Richard Sorin and then, shortly after, John Brookfield. Back then the top tier of the grip world was almost completely defined by two names: Richard and John.

Richard's secretary called me up in 1990 and said that her boss wanted her to order some of our grippers—Warren, it turned out, knew of Richard from his earlier exploits with

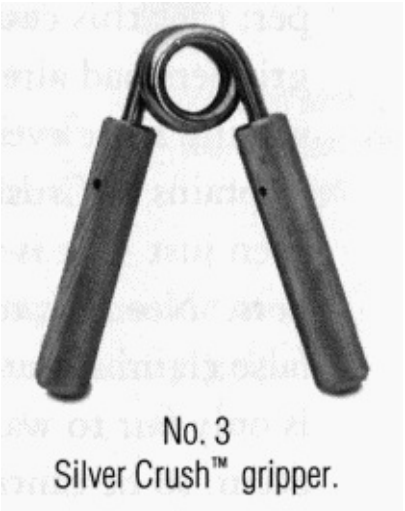
grippers, and I went on to write a number of articles featuring Richard's prodigious feats of hand strength, and between his ability and the exposure we got for him, he developed into the first modern-day grip strength star. It's hard for people to appreciate this now, but back in 1991, for example, Richard was the only person in the world we knew of who we believed could actually close our No. 3 gripper—and he was the first to say that he couldn't do it every time he tried.

John Brookfield called me up one day shortly after Richard had contacted us and introduced himself by saying that he was a professional strongman and had the goal of developing the world's strongest hands, so he wanted to buy some of our grippers. Subsequently, John was also featured prominently in grip-related articles I wrote beginning in the early 1990s. In the May 1992 issue of *IRONMAN*, I had an article called "The Captains of Crush: The Men who Know How to Get a Grip," and it talked about the exploits of Gary Stich, who had made something of a name for himself with his performances on plate-loaded grip machines; Richard Sorin, who was the best in the day on our grippers and on pinch gripping; Steve "The Mighty Stefan" Sadicario, who did traditional feats of strength; and John Brookfield, who was our choice to win any decathlon of finger—hand—wrist strength. This was the beginning of taking feats of grip strength and those who excelled at them to a new level of public awareness and appreciation, and to give you an idea of the extent to which we were able to help take grip strength from a basement corner to the mainstream, John Brookfield was invited to appear on the *Today* show as a result of something I wrote about him in 1995- John, by the way, didn't have an easy time mastering the No. 3, but by pounding away at it, he became the second person in the world we

certified as having conquered it, and to this day he continues to be capable of ferocious feats of hand and lower arm strength. John Brookfield has gone on to write extensively about grip training, and his first book, The Mastery of Hand Strength, is on its way to becoming a classic in the field. We feel that it is important to recognize that John, by virtue of his accomplishments, his incredibly fertile mind when it comes to training, and his prolific writings on the subject, is without doubt one of the people who was most important and most influential in terms of creating the current interest in hand strength and grip training.

SILVER CRUSH™ GRIPPERS

Having started selling perfectly functional but arguably somewhat primitive grippers in 1990, we introduced our Silver Crush™ grippers shortly thereafter. Sometimes incorrectly referred to as being made from stainless steel, these grippers actually got their sparkle from their chrome-plated finish. Because they still had the heart and soul of their mighty forebears, we might have been accused of gilding a lily, but we saw certain advantages in making these changes. Incidentally, you might wonder what Richard Sorin thought about his then-new IronMind gripper? In September 1990, Richard wrote me: "Thank you so much for the #3 gripper. It is as nice as I could imagine ... The pressure required to shut the gripper seems identical to the *Iron Man* grippers."



No. 3
Silver Crush™ gripper.

The pressure required to close these grippers has always been a somewhat mysterious if not contentious matter, and we'll talk more about the subject in a bit. First, though, backing up a step, grip history aficionados need to understand that Warren's original *Iron Man* grippers were named things like "Heavy Duty," "Extra Heavy Duty," and "Super Duty," and were unmarked. Thus began the fairly well-established practice of accidentally or intentionally misrepresenting the toughest gripper you had closed. One world champion powerlifter was well-known for walking around the warm-up room casually clicking an easy gripper and handing a really tough gripper to one of his competitors, challenging him with *can you do this?*, which of course he couldn't. Another powerlifter, world-class in his own mind though not in fact, brazenly proclaimed that he had closed the toughest of all the old *Iron Man* grippers (although nobody with any credibility paid much attention to his braying), and then one day he made the mistake of telling a certain grip man about the really tough gripper he used to have, a gripper so tough that only he could close it. The spin doctor went on describe what a pity it was that he'd lost the gripper.

No problem, the grip man replied, and pulled one of its apparent cousins from his brief case. The spin doctor looked as if he had just swallowed a frog, and for a few minutes it became a case of shut the gripper or shut your mouth, your choice, and suffice it say that it was the mouth that closed.

CAN I SEE YOUR ID?

As explained above, because these earliest grippers were unmarked, opportunities for misidentification and the resulting misstatements were bountiful, and while it wasn't our intention to blithely feed this trend, our Silver Crush grippers were also sold without any permanent markings. Thus if someone, for example, closed a gripper that was a No. 2 but was told—or wanted to believe—it was a No. 3, that is just what it came to be whenever the story of his conquest was repeated.

We have heard stories going back even to the early 1990s of people referring to any really tough gripper they had as a "No. 3," even if, in fact, it not only wasn't a No. 3, but also wasn't even an IronMind gripper: that this could happen is further testimony to how famous our grippers had already become. The power of our trademark is also noteworthy since even when people don't use the full product name, e.g., Captains of Crush No. 3, whether they abbreviate it COC#3, No. 3 or even just 3, it is fully recognized as one of IronMind's legendary grippers. Needless to say, whenever we hear about a misidentification or false claim about our grippers, we try to set the record straight, but it is only fair to warn you that misrepresentations have been known to occur, so be cautious if you hear something that sounds outlandish, especially if it comes from a questionable source, and always feel free to contact us if you have a comment or a question about our grippers.

In late 1992, as part of our march toward the perfect product, IronMind brought the design and manufacture of our grippers in-house, freeing Warren Tetting to continue to make grippers in his great tradition, while allowing us to move forward with our ideas about developing what has become the world leader in heavy-duty hand grippers. The next generation of Silver Crush grippers we began selling in 1993 incorporated a number of design advances, and they are easily recognized by the stainless steel handles we introduced into the gripper world that year and by the clear band at the midpoint of the knurled handle, which has been a signature element in our trade dress ever since. We also pioneered a new assembly technique that freed us from the key disadvantages associated with the traditional drift pin assembly method previously developed by Warren Tetting. Incidentally, do not construe this as criticism of Warren's drift pin technique, as it has certain advantages too, but we developed an alternative technique that gave us a set of trade-off values we preferred. It's quite an exclusive club of people who own a very rare, limited production gripper we made in this era: it had stainless steel handles and used a right-hand wind spring, a product configuration that had a short life span, in part because our customers didn't like it compared to our traditional left-hand wind springs.

Silver Crush gripper with stainless steel handles.

Right-hand wind spring with stainless steel handles.

By now we had already made significant strides in improving some of the key functions of our grippers, although little did we know how much more progress we would make in the coming years. Specifically, we took a number of steps to increase both the consistency and the life span of our grippers, but there is something else we did in 1993 that forevermore changed the

heavy-duty gripper market: we began stamping our trademark (T, 1, 2, 3, 4) in the ends of the handles, so now there was no more possibility of confusing what you or your buddy had closed, and these trademarks, even in their simplest and most incomplete forms, are some of the most well-recognized product names in the entire heavy-duty grip strength world.

By the way, I think the issue of life span seldom comes up in discussions of Captains of Crush grippers because so few of the people who talk the most about our early grippers were around when the previous generations of our grippers were, and therefore they simply do not have any direct experience with how quickly they broke compared to the grippers we make today. We have made tremendous progress in boosting the life of our grippers, and this isn't important just in terms of having your favorite gripper around for a good long while, but as we'll see later, this fact figures prominently in understanding some commonly repeated misstatements about our Silver Crush grippers.

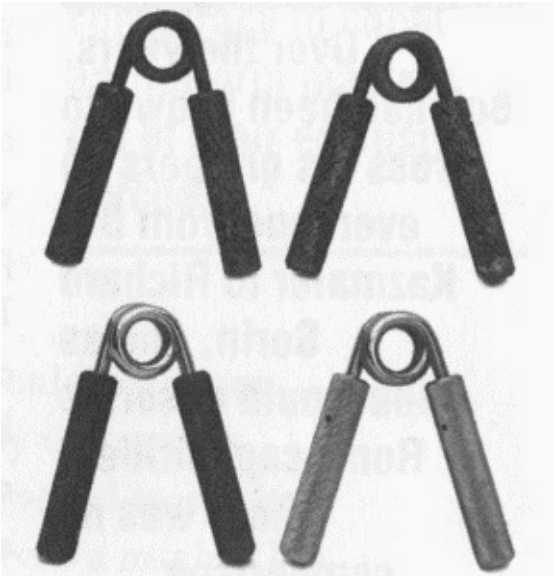
EVOLUTION TOWARD PERFECTION

After trying several types of steel handles on our grippers over our first few years of production, in 1995 we changed to aluminum—a revolutionary move at the time, and another example of how Captains of Crush grippers have always set the pace in terms of product features and product quality. Our grippers have always been the leader because we have pioneered the use of new materials and new manufacturing techniques that gave our grippers levels of precision, durability, and sophistication that had never before been seen. Aluminum, while expensive, was functionally superior to steel for our application in a number of key ways, not the least of which was the way it knurled and the way it felt in your hand compared to

our steel-handled grippers. Anyone who has tried one of our Silver Crush grippers can vouch for how the chrome-plated handle always had a slick feeling, even in a well-chalked hand, and how especially if you were doing repetitions, it was hard to keep the gripper in its sweet spot without frequently resetting it. When we introduced the aluminum handle, once again our grippers took a giant step forward.

THE POND GROWS

Richard Sorin undoubtedly provided the original inspiration for many people to develop and demonstrate world-class hand strength by closing a No. 3 Captains of Crush gripper, but things had progressed a lot since those earliest days, and in our thinking it was a guy named Ron Mazza (CoC 1995) who marked the beginning of the next generation of grip men—guys who pushed standards up to a new level. Ron came from Bollenbach's Gym, and longtime IronMind customers know that Bob Bollenbach was a grip maniac before A1 Gore created the Internet. Bob, like me, was charmed by an old *Iron Man* gripper and in a time-honored tradition had one hanging in the gas station where he worked, along with the standing offer that if you closed the gripper, you'd get a free tank of gas. Bob never gave away any free gas, but when we started selling grippers, he quickly heard about what we were doing, and suffice it to say that since 1991, Bob Bollenbach has had very special status at IronMind; he used to pick through his early orders and was known to send back some of the grippers because they weren't up to snuff (Bob set the bar very high, so we knew that if he liked a gripper, it had to be good).



Variation in early IronMind grippers, c. 1990–1992.

We should digress a little at this point to explain that because of the manufacturing variations of those grippers from the very early 1990s, we could pick through our inventory and find some that were wider, some that were narrower, some that had a deeply set spring and some that had a larger gap between the bottom of the spring coil and the top of the handles, and so forth, all of which made picking an order for Bob Bollenbach something like picking out mushrooms for a gourmet chef—we always held our breath and lived in fear of what Bob would say when he got his order ("Well, Randy, I liked most of the grippers, but I am sending one back ..."). Bob has not returned a gripper to us in years, which should tell you something about the progress we made from the old days, and about the consistency and precision we have achieved.

Incidentally, talking about being able to hand pick grippers with certain characteristics over a decade ago, we can

emphasize how much things have changed since then with the following example (which also illustrates how the facts can be misrepresented, especially on the Internet). Recently we got a request from a guy who asked if we could find him an easy No. 3 and an easy No. 4. We wrote back explaining that while we had been able to do that years ago, those days were long gone and that now this it would be kind of like trying to find him a light 20-kg Eleiko plate. We went on to explain that our latest grippers were always our best grippers because over the years we have continued to refine and improve our product. This piece of information evidently resulted in an Internet post about how we had established a new" standard for our grippers, and from that, myths about our double-stamped grippers surged in some quarters. Sounds like a case study in rumor transmission, demonstrating how the original message got distorted as it was passed along the line. As we'll see, the innocent little word "new" has a history of being tied to myths related to our grippers.

Anyway, it was fitting that Ron Mazza came from Bob's gym because this gave Ron a chance to run through Bob's substantial gripper collection, which established something of a yardstick for comparing Ron's performances to earlier standards. Over the years, Bob had been known to press his grippers on everyone from Bill Kazmaier to Richard Sorin, and as Bob would describe Ron's capabilities, "there was no comparison," so that should tell you something about Ron's hand strength. Ron Mazza's role in the history of our grippers is also significant for a reason that I have explained to a few people over the years, but which has largely gone unnoticed, I think, even though it is very illuminating in terms of some of the more outlandish comments we have heard about our "old"

grippers versus our "new" grippers.

Ron's certification came after we had advanced from our earliest grippers, and he was the first person who made the grade after our earliest grippers had been discontinued. This is important because it should dispel the haughty and misguided claim that the guys who were certified after those earliest grippers were discontinued somehow don't really measure up to the very first guys we certified. Incidentally, we sometimes shake our heads in amazement when we hear the related comment that we must be making our grippers easier and easier since more and more guys have been certified on the No. 3. Here's why.

Students of modern grip history know that Richard Sorin invented the Blob (it's the sawed-off end from a cast York 100-pound dumbbell) and that even when he stood alone as being certified on our No. 3, Richard considered lifting the Blob to be his most meritorious feat of hand strength, something he said he could only do some of the time, and then it was usually a full deadlift at best ("This is probably the toughest grip feat I have ever done," Richard said). In stark contrast, now there are guys who can clean it, pass it around their bodies, and even snatch it. Are Blobs getting lighter? Is the York Barbell Company part of some greater conspiracy to cheat earlier grip masters out of their exclusive perches? Of course not. How about this screamingly obvious explanation, instead: with more strong guys trying to lift Blobs, the standards are rising, just as they do in any sport as it matures. It's really just that simple, and you should wonder about anyone who says otherwise.

Recognizing what was coming—that grip standards were on the rise—even though the CoC No. 3 was the universally recognized mark of a world-class grip, we knew that we had

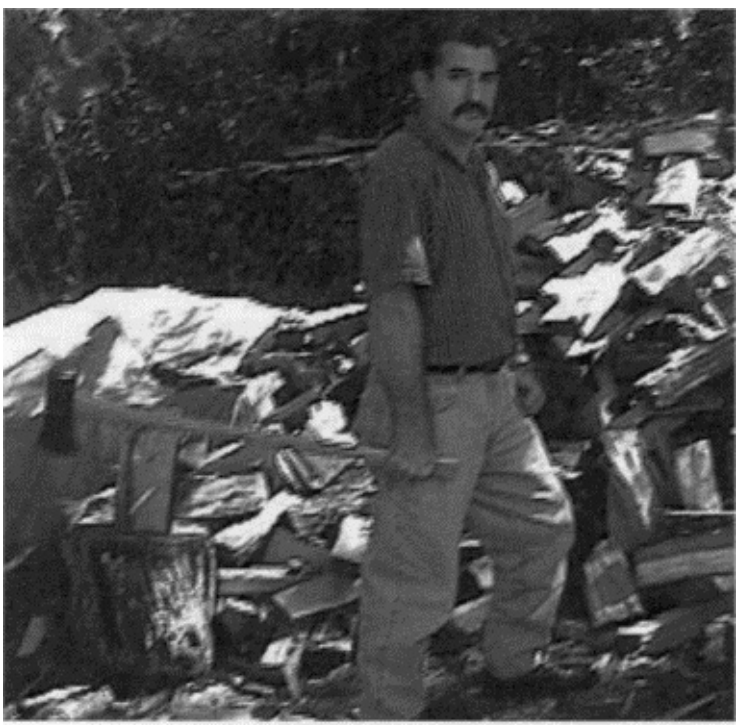
guys prowling the earth who could do more, so we created the No. 4 Captains of Crush gripper in 1994.

When we developed the No. 4, our idea was that it would represent the newly-established uppermost echelon in our family of grippers, one that might not be reached for years, but one that would mark the strength of guys who were head and shoulders above even a mighty No. 3 Captains of Crush gripper. We went over three years before it was closed, but even before he finally succeeded as the first to reach this milestone, Joe Kinney was dogging it with a level of determination and fight that we had never before seen in the grip world. Most people do not realize just how prodigiously gifted Richard Sorin was: he used to tell me that he never really trained his grip in a systematic way, but just performed spontaneously—this was a guy, you have to remember, who told me he could pinch grip a pair of 35s when he was 12.

Joe Kinney was cut from different cloth, however, a guy with a past marked by health problems. He first stalked the No. 4 with the single-mindedness of a predator looking for a meal and then closed in for the kill with the same unwavering focus, and in the process, he didn't just raise the bar, he advanced grip training: Joe developed innovative training strategies for grip work, and through a combination of increased volume and intensity, set a new high-water mark in the field. Joe also set himself apart by neither walking around endlessly beating his chest nor idly chatting nor slinging buckets of mud at others; he just quietly took care of business, and before he was done, he gave the grip world quite a jolt.

I have told this story to a few people over the years, but it is worth repeating here. Years ago, when they alone ruled the pinnacle of the grip world, I asked Richard Sorin and John

Brookfield what they each thought about someone being able to crush a potato and burst a can of beer or soda. Richard said he thought the can was possible, but the potato was humanly impossible; John said he thought the potato was possible, but the can wasn't (John, very much to his credit, would later say that he was wrong about the can and became very proficient himself at bursting cans).



Joe Kinney can handle an axe—
backwards and forwards.

The first point is that the two top grip guys at that time were in striking disagreement, but the second point is the one that is really telling: along came Joe Kinney, and he could do both things. Joe Kinney was the first person we certified for closing our No. 4 gripper, and he was also the first person who ever sent us any proof that he could close a No. 3 with only two

fingers—something that used to make people dizzy when they just considered the possibility of this being done. Later in this book, you will have a chance, in Joe's words, to learn how he trained.

MILO readers have a sense of a special family in Wales where having incredible grip strength seems to fit hand in glove with equally unusual levels of modesty and a zeal for doing things properly. I am referring to the Holle family, and so far, five of the brothers—Nathan, Gavin, Craig, Jay and Kayne—have all been certified as closing the No. 3 Captains of Crush gripper, and Nathan has been certified as closing the No. 4, the second man in history to accomplish this tremendous feat of grip strength. As I have often written, I cannot say enough good things about these guys—they quietly take care of business in a most remarkable way, and while others are talking, the Holies are training and gaining.

Shortly after Nathan Holle was certified on the No. 4, a guy wrote to me and said that maybe I didn't know what a stir this had created in certain quarters because some people didn't believe that Nathan's training could be as straightforward as what he had described. He must be holding something back, or worse, is what I was told was being said. His training routine is just too simple, the critics charged.

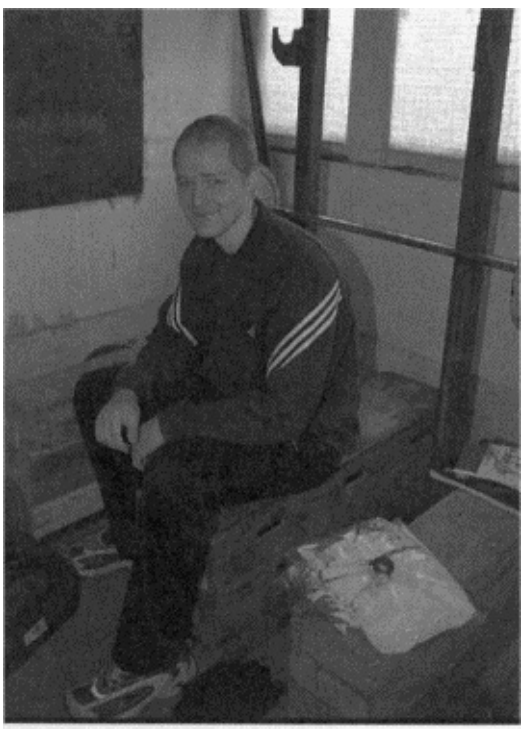
We have long observed that some of the people who are most outspoken about both our grippers and grip training know relatively little about strength or lifting in general, let alone grip-specific stuff. As a quick test of my hypothesis, I asked someone who has never been to a world weightlifting championships or an Olympics, but who has read *MILO* diligently from the very first issue, the following question:

"If I told you that someone said Nathan's training is too simple to work—quick!— what would you say?"

"The Bulgarians

"Right," I said. "You just got an A+ on the test."

The Bulgarians, of course, are some of the most feared weightlifters on the face of the earth—they have a tradition of notching their belts with triple(!) body weight clean and jerks. You read that right: triple body weight clean and jerks. And the hallmark of how these guys train is not some mind-numbing combination of this, that and the other, or some other mumbo jumbo they got from a dubious Internet site. They snatch, clean and jerk, and squat. With really heavy weights. Over and over again.



Nathan Holle.

Remember this story when you read Nathan Holies section about training on our grippers.

Chapter 2: A Technical Twist

CALIBRATION REVISITED: HOW PRECISE IS THAT PUPPY?

Based on our research and our sales experience, the earliest grippers we sold, while certainly the most variable, were by no means as random as a few detractors have claimed. Years ago, based on our research and our familiarity with the tolerances of the sacred coin of our realm, barbell plates, we introduced the analogy of uncalibrated barbell plates to explain the precision level of our grippers. Most people who lift weights probably don't know that the average barbell plate has an accuracy level in the range of 5—10%, and that accuracy levels of 2-3% are considered very good (and that sort of tolerance just happens to coincide very nicely with some of the general limits of what humans can detect as a noticeable difference). An International Weightlifting Federation (IWF)-certified calibrated plate, on the other hand, is so hair-splittingly precise that you can use one to check the accuracy of a scale, which is part of the reason why, in 2003, an IWF-certified 20-kg Eleiko bumper plate, for example, costs about $300 in the U.S. (yes, that is correct, $300 for one plate, without shipping).

How precise are these plates? Hold three U.S. quarters or three one- Euro coins in your hand: the three quarters will give you an approximate idea of the maximum amount a 20-kg plate can be overweight and still get an IWF certification, while the three Euros would cause the plate to flunk. And if you think that's less of a difference than you could possibly notice when you're lifting, consider that the amount a plate can be underweight and still get certified is half of how much it can be overweight!

Unfortunately, from here, if you neither understood how barbell plates are calibrated nor the inherent limits of this type of gripper, you might mistakenly think you could test a gripper after the fact and send along a note with a number on it—and that would make it calibrated. Of course, if that were true, the same process would transform manhole covers into calibrated barbell plates just by weighing them—do you want to be the one to tell that to the IWF and Eleiko?

The truth is that barbell plates can be and are calibrated for reasons and using processes that do not apply to hand grippers. Calibration is not a matter of taking a static snapshot of something and reporting on what you find, but rather it is a dynamic process whereby something must meet a pre-defined set of criteria: think about beginning with a nearly-perfect but just barely overweight Eleiko bumper plate, for example, and then removing minute amounts of material from designated portions of the plate until it is within the rigid guidelines allowed by the IWF, and when it finally matches those specifications, it is calibrated. Calibration, once again, is the process that brings a plate into conformity with this rigid requirement, not one that merely reports what any plate weighs.

When you first encounter these very different concepts—actual calibration versus after-the-fact assessment—you will likely mistake this distinction as simply quibbling over semantics, but if you think about it a little more and consider our examples of calibrating an Eleiko bumper plate versus weighing a manhole cover, you will understand the dramatic difference between these two processes. If the distinction still seems fuzzy, just remember to use the word calibration when you are referring to something that must conform with a pre-

existing standard, not when all you are talking about is just measuring something after it is finished.

Even more crucial than grasping what calibration actually means in the lifting world though is the fundamental fact that grippers, unlike barbell plates, do not lend themselves to an indisputable magic number as a measure of their difficulty. This concept isn't intuitively obvious to everyone, but is central to understanding gripper ratings and related topics. Let's take a minute and walk through this idea.

For starters, the resistance required to overcome a barbell plate is simply a function of its mass, so all you have to do is plunk it on a precise scale, read the number, and—*voilà*—that's a true index of what we can call its degree of difficulty: unflinchingly, barbell plates with more mass are heavier and are more difficult to lift than barbell plates that have less mass. A gripper using a torsion spring fitted with handles is an entirely different animal, one which involves in a dramatic way factors ranging from hand position on the handles to the surface of the handles. Thus, even if you begin with an absolutely precise spring, sliding your hand up and down the handles of any gripper changes the amount of force required to close it. Similarly, whether or not a given gripper is stabilized when squeezed, has good knurling, is squeezed with a dry hand or an oily one, and so forth will make a dramatic difference in your ability to close it. Incidentally, specific training techniques based on these principles have been developed over the years, which certainly validate how factors other than spring-specific characteristics affect how difficult a particular gripper is to close: use of chalk, finger placement on the handle, and carefully setting the gripper, for example, can give you a definite edge when closing it.

Continuing with the comparison between a hand gripper and a barbell plate, think of taking four IWF-certified 50-kg plates: put two on an IWF-certified bar and put the other on a dead-stiff, non-revolving, two-inch thick bar, and do a power clean with both barbells. Notice any difference in difficulty? "Of course," you say. "The first lift is pretty easy and the other one is pretty hard." That's the kind of situation you are dealing with when it comes to a hand gripper. Even if you start off with absolutely identical springs, the other components of the gripper can make a significant difference in how difficult it is to close. It gets trickier still, though, because as explained above, springs like this can never be as blindingly precise as calibrated plates.

Springs themselves, the units that provides the resistance in grippers, are a formed part, so there will be variations from piece to piece. How big the variations are depends on everything from the inherent limitations of the design to the specifics used in manufacturing and assembling the particular item(s) under discussion. Let's roll up our sleeves and take a quick look at how hand grippers work, and then start to put together all of these pieces to assess just how accurate these grippers really are.

The basic technical things to understand about torsion springs are that their strength will be a function of a number of factors (such as the wire diameter used, the diameter and the number of coils, the angle of the arms, and so forth) and that variations in these parameters, along with differences in the final assembly, will lead to variations in the load required to deflect the spring. As you can imagine, this situation presents manifold opportunities for variations in what is supposed to be an essentially uniform product.

Having said all of this, does this mean a gripper is a piece of junk or a mere "toy," or that they are woefully imprecise? Of course not, it just means that you need to be careful about expecting a torsion spring gripper to be as amazingly precise as an implement used in the Olympics, for example, and it should also be clear that it isn't easy to make extremely precise grippers: we know how much our grippers have evolved over the years and how much time and effort it has taken to bring Captains of Crush grippers to their current levels of sophistication. We also know how making really precise grippers isn't as easy as some people might naively assume. A few years ago, a guy announced to the world that he was going to make grippers with, for example, zero tolerance in the spring angle, and then over time, he changed his claim to plus or minus one degree, then to plus or minus two or three degrees .... his tolerances kept climbing until he finally exited from the field. Incidentally, plus or minus two or three degrees isn't horrible: it is within industry standards for this type of spring, but it is a level of (im)precision you could only find in our nearly-ancient past. Grippers made that crudely would fail in the first stage of our quality control procedures because we have been able to advance so far beyond the generally accepted industry standards.

TOLERANCES: WE CAN THREAD A NEEDLE

Since 1990, we have worked steadily to control the factors that determine how difficult it is to close a gripper, and anyone who has a sample of our grippers from, say, 1990 and compares them to a sample from, say, 2003 can confirm that we have been able to make remarkable progress over the years, such that we have achieved unprecedented levels of consistency and precision. The grippers we make today have an accuracy level

that has never before been achieved with a product of this type and amazes both independent reviewers and our hardcore users. “Enough theory,” you say, “what’s the bottom line? How much do grippers really vary and what level of difference really makes a difference?” Good questions. Even the earliest grippers we sold were within the accuracy range of standard barbell plates, and our grippers now are pushing the envelope to the point where they are probably more accurate than most of the barbell plates you lift. Returning to those grippers from a dozen or more years ago, they had, for example, variations in the angles in the range of plus or minus about two or three degrees and variations in load of about 10%. As noted above, this sort of variation is still within industry standards for springs of this type, and even though tolerances like plus or minus two or three degrees seem big enough to accommodate the Queen Mary compared to what we achieve with our grippers now, we would be the last to sneer at those grippers: they were great and anyone who scoffs at them probably is more of an armchair expert - than an actual lifter. Incidentally, in 1998 Richard Sorin expressed concern that his “new” gripper was much easier to close than his “old” gripper, and he sent us his test results to demonstrate his point.

Remembering that Richard’s true original gripper would have actually been an *Iron Man* gripper, not an IronMind gripper, it is still instructive to look at Richard’s results since they probably present a worst-case scenario, given that Richard’s point was that his “old” gripper was much tougher to close than his “new” one. Using a weight stack and noting “all grippers tested and re-tested—same results—all in same steady vertical position,” Richard reported to us, with an illustration of both his testing procedure and the results, that it took 20 additional

pounds of pressure to close his "old" gripper than his "new" gripper.

These results, indeed, both confirm that this particular gripper was tougher than the other one, and also that this issue had been exaggerated and distorted since the size of the difference was consistent with exactly what we had been saying for years: it was within the range typical of all the barbell plates likely to be found in any gym. It's no coincidence that about this time, a customer sent us a list of the plates he had weighed in his gym and was more than mildly surprised to find that some were heavier and some were lighter than their face value. This is the typical variation we mentioned above, something that isn't known by everyone who lifts weights, even if it's old hat to people involved with weightlifting at the World Championships or Olympics level, for example, or to the guys like Steve Justa who might lift huge piles of junk, but who actually weigh what they lift.

Whenever we hear someone say, "Oh, but I was over at my buddy's house last night and his gripper seemed so much tougher/easier than mine," we are tempted to ask what happened when he loaded up his PR deadlift and tried it at a variety of different gyms (or using different plates in the same gym) or at a variety of different times.

ACCURATE AND LONGER LASTING TOO

To repeat, even though we hold those earliest grippers in high regard, we have come a long way from those days, which is reflected in the many comments we get from people who are amazed at the accuracy of our latest grippers. Today Captains of Crush grippers have been able to establish not only previously unheard-of levels of precision and but also, as mentioned

above, dramatic increases in their life span. This second point is a significant one that is highly appreciated by anyone who might have owned one of our Silver Crush grippers, for example: they had a fraction of the life span of our latest Captains of Crush grippers, and the difference is so significant that we can best illustrate it by noting that anyone who shows you an old Silver Crush gripper that is still in one piece is also showing you a gripper that wasn't closed too many times—if it had been, it would have broken.

HOW ABOUT THE EASY ONES?!

Stories can be found in certain quarters about some ferociously hard old gripper that so-and-so supposedly closed, and while it is certainly true that our grippers from the early 1990s varied more widely than those we sell today so that there were some that were unusually tough, it is also true that there were some that were unusually easy, so don't ever be conned into thinking that all those really "old" grippers were especially hard. And also always remember the quick test regarding our Silver Crush grippers: if it's still in one piece, it simply was never closed too many times. Further, because the easier Silver Crush grippers were closed the most and therefore broke the most, this means that the easiest ones are long gone, while only the toughest ones remain. This simple fact has distorted ideas about how tough they were to close, because the ones that are still kicking around are most likely to be the toughest ones. Now that you know about their lack of longevity, you can keep the Silver Crush grippers in their proper perspective.

PHANTOM FOURS AND OTHER MYTHOLOGICAL CREATURES

In 1992 Warren Tetting made us three grippers that had

springs that were slightly thicker than we had been using in our No. 3 grippers. Of course, we sent one to Richard Sorin and one to John Brookfield, and even though we never received any corroboration for it, Richard told us that he closed it and we believed him. Nonetheless, the idea that this gripper is a so-called “phantom four” or “the toughest gripper ever closed” is utter balderdash—whether you look at the numbers involved in the specific elements of this gripper or just pick it up and squeeze it for yourself (which we and others have done), you will realize it for what it is: a gripper that is a little harder than a No. 3, nothing more and nothing less.

Chapter 3: How Tough Is It to Close?

In 1993 we began to test grippers, partly to appease Richard Sorin, who kept telling me how I was "really missing the boat" for not describing how much pressure it took to close the grippers we sold. Testing grippers, however, is not the simple proposition it might appear to be, and the testing process can quickly reveal naiveté in everything from lifting in general to grippers specifically to the rudiments of experimental design and statistical analysis. And there are even more potential problems if you have a dishonest or biased person conducting the tests.

TIME OUT FOR TESTING

To repeat, testing grippers is isn't as easy as you might think, and like a chain saw, it will draw blood from an incompetent operator in the blink of an eye. Thus, if someone launched a testing program that confused the identification of grippers (whether accidentally or intentionally), had a testing method that was neither reliable nor valid (in a formal statistical sense), and selected the worst cases from all the data he had collected and then attributed those to a particular gripper, he would certainly leave the world with another example of the "garbage in, garbage out" principle. And before you think that an ill-conceived analysis like this could never exist, we have seen a report that demonstrated all of these problems, plus some more, so let's take a closer look at it.

Because we value honesty and knowledge, we feel it is important to address this shoddy "research," not just because it was used to disparage Captains of Crush grippers and contributed to misconceptions about them, but also for a reason that will surprise a lot of readers: despite its

fundamental inadequacies, believe it not, we can actually learn some things of value from it. This "test" included over 40 grippers, roughly half of which were identified as being IronMind grippers, and the purpose of the test was to examine the consistency of the grippers. First, we realize that the person writing this report was employing his standard *modus operandi*: he was trying to copy our grippers, so his starting point was to try to denigrate our product, and he would then introduce his imitation, which (no surprise) he would then tout as vastly superior to the real deal. Further, since he also wasn't highly knowledgeable about either grippers or research, you might wonder why we would think looking at this report has any value. Here's why: as poor and biased as this report is, we can extract some meaning from it, and in fact, using its data, we will demonstrate that what this person claimed about our grippers is false and that what we said about them is true. "Just a second," you say, "you're going to use his data to prove that what you said is true and that what he said is false?" That's right, and don't worry, we won't give you a headache or put you to sleep in the process.

Mark Twain once sagely noted, "There are lies, damned lies, and statistics." Statistics in this case represent numerical abuse, or simply said, using numbers to create fiction. Numbers can also be used to present facts, and the simplest way to do this is with what are called descriptive statistics. Descriptive statistics, you will be happy to learn, are just what they sound like: think of them as tools that help all us to describe piles of numbers, so that we can summarize them accurately and extract meaning from them.

As a starting point, let's note that in the "test," all the grippers in the sample were pooled—that is, the results from

the IronMind and non- IronMind grippers were combined—and the worst of the findings were then attributed to IronMind's Captains of Crush grippers. While even a technically unsophisticated reader would hopefully notice this error, for the moment, let's look past this attempt to make our product look bad, and see how these very data actually demonstrate the pattern of progress we had made over the years. Let's use these data to assess whether or not we have succeeded in making our grippers less variable and more consistent, even if only up to just that point in time.

This "research" used torque ratings as its primary dependent variable to assess how difficult the grippers were to close. For our current purpose, there is no need to focus on either the design of this "study" or torque ratings *per se* because we knew from field data that we had collected that this testing method produced torque ratings which were neither *reliable* nor *valid*—these are formally defined statistical terms, but they are very easy to understand conceptually.

Reliability means that when you repeatedly measure a certain unchanging thing, you should keep getting the same measurement—no room for rubber rulers here. In other words, suppose you had a 2 x 4 and you measured how long it was. If you had an accurate tape measure and knew how to use it, you would get the same measurement each time. If you got a different number each time, it would be a red flag telling you that you had problems with what is called reliability: the measurements lacked the required level of consistency.

Validity means that the number you get has some relevance to what you are talking about. In this case, torque ratings were presented as the measure of how difficult a gripper was to close, so these torque ratings, if valid, should coincide with

perceptions of how tough the grippers felt in your hand. Failure to do that is an indication that the test is invalid, which is a polite way of saying meaningless, and for reasons that we need not go into here, there are statistical reasons why reliability sets an upper limit on validity. In other words, if you start off with an unreliable measure, even if there are no other problems with the design or execution of the research, don't expect it to do very well as far as validity goes.

We knew people who had sent in multiple grippers for testing with this method and this is what happened: the rank ordering of the torque ratings did not correspond with the reality of what the grippers felt like to close (e.g., the one with the highest torque rating was not the hardest to close). We also knew that when the same grippers were sent back for re-testing, not only the absolute numbers but also the rank orderings of the torque ratings changed: so much for the torque ratings, as they proved to be an abject failure in terms of both reliability and validity.

Let's give the other dependent variable, included angle, the benefit of the doubt: perhaps the author of the report did a better job with it. We understand that we can't make a silk purse from a sow's ear, but we would like to illustrate how we can still learn something of value from this substandard report. Approximately half the grippers were identified as from IronMind, which we will take on faith, and the remainders were reported as coming from other sources, which we will also take on faith. Let's begin, as the author of the report did, and pool the results, but instead of stopping here as he did, we will use those numbers as a starting point. Next, we will divide the entire sample into two groups: one includes the grippers identified as from IronMind, and the other contains the

grippers from other sources. We then further divide the sample, looking at IronMind's Captains of Crush (that is, post 1995) grippers versus IronMind pre- Captains of Crush (that is, pre 1995) grippers. For each of these groups we calculated the standard deviation, which is simply a statistic that measures how much the sample of numbers varies around the mean (average) of the sample. If the numbers vary a lot, the standard deviation goes up, and if they don't vary much, the standard deviation goes down.

WHY ARE WE INTERESTED IN THIS?

Given the data available in this report, examining the standard deviation of the angles is a quick way to evaluate how consistent the grippers in each group are, or to look at it the other way, how much the grippers vary. *Remember, the larger the standard deviation, the more they vary, and the smaller the standard deviation, the more consistent they are.*

Using the entire sample, we calculated the standard deviation for the angle and it equaled 3-74 degrees. Taking on faith the grippers that had been identified as from IronMind, we calculated the standard deviation and got 3-07. What does this mean? It means that the IronMind grippers are noticeably less variable (and therefore more consistent) than the entire sample, which should have been the first point the author of this study noticed and reported.

Next we took, on faith again, the grippers that the author had identified as from IronMind and subdivided them into two groups: those that were our Captains of Crush grippers and those that were our earlier pre- Captains of Crush grippers. Calculating the standard deviation for the pre-Captains of Crush IronMind grippers, we get 3.07, and calculating it for the

Captains of Crush grippers, we get 1.58(!), which once again corroborates that we have brought remarkable new standards of accuracy to the gripper world. These findings underline that despite the best (worst?) efforts of our self-appointed spokesman to hide the truth, the results speak for themselves: Captains of Crush grippers rock.

Gripper variation/consistency

Group	Standard deviation of angle (degrees)*
Entire sample	3.74
All IronMind grippers	3.07
Captains of Crush® grippers only	1.58

*a larger standard deviation means they vary more, a smaller standard deviation means they are more consistent.

Thus, for all their obvious limitations, these data nicely illustrate the progress in our work even up to that point in time, and the evidence supporting Captains of Crush grippers is crystal clear. And our latest grippers—reflecting our continued progress toward absolute perfection—are as close to spot-on as you can imagine.

O.K., now that you've seen how you can learn something of value even from crummy research, what happens if you start off on the right foot?

A responsible testing program can at least yield reliable relative indices so that you can consistently gauge one gripper, and it can also achieve requisite levels of validity, so that the numbers yielded by the test correspond to the reality of actually squeezing a gripper. In 1993, we reasoned that even if the idea of an indisputable magic number did not exist for grippers, we could develop an indexing system that would give our customers a frame of reference for understanding, minimally, the difficulty of one of our grippers compared to another. As things advanced, our grippers have come to define the standard units of measurement for all heavy-duty hand grippers, if not hand strength in general, so the value—and the importance—of our relative indices have increased tremendously over the years. From our earliest days, we have treated our commitment to quality as a serious responsibility.

I was trained to be a research scientist, but lifting is our world here at IronMind, and we knew that to be useful, any efforts we made to rate our grippers should be in a context that was meaningful to lifters. Thus, anything measured in inch-pounds (torque) or pounds per square inch (pressure), for example, was useless in actuality, even if it might make sense on paper to a non-lifter. When's the last time someone asked you, "How many inch-pounds can you deadlift?" "What was your PSI on that box squat?" Needless to say, pounds or kilos is the language of lifting, so when we began testing grippers in 1993, we knew that's what we had to use to describe how difficult they were to close. Further, we knew that grippers flex and tend to move when under a load, so that any valid testing system had to incorporate this feature or it would yield meaningless data. Finally, we like to think that intelligent people are always driven by the KISS principle: Keep It Simple,

Stupid. So what did we do?

We can simplify the description of our procedure so that you will immediately understand the basic method we developed in 1993 and have used ever since. Imagine clamping one gripper handle in a vise, with that handle parallel to the ground. Next, hang weights on the top handle until it touches the bottom handle. Do this—carefully—with IWF-certified barbell plates, such as Eleiko makes, and you will end up with a reliable, valid indicator of how tough it is to close the gripper, in : units that are meaningful to lifters (e.g., 140 pounds), plus it gives you the flexibility to argue all day about where on the handle you think you should apply the load (always remember that you are dealing with a lever arm, so where you apply the load will influence the absolute numbers you get, which is one of the reasons we hesitate to attach too much importance to a specific number).

This is an oversimplified version of what we have been doing for over a decade, and it is how we developed the approximate ratings we supply with all of our grippers, and while it certainly isn't the only method that works, it gives you an idea of some of the elements you should watch for in any system that rates gripper loads. Also, for what it's worth, back when I ran our original numbers by Richard Sorin, he said they were right on; John Brookfield worked in the other direction, and we had great convergence with him too, as John, who likes to estimate the pressure it takes to crush different things, came in at 160 pounds for our No. 1, 200 pounds for our No. 2, and 285 pounds for our No. 3.

CAPTAINS OF CRUSH GRIPPERS: THE GOLD STANDARD

Returning to the question of how hard it is to close a particular gripper, even though an indisputable poundage rating, for example, did not exist for grippers—in principle or in fact—Captains of Crush grippers had become established as the gold standard of grip strength, and each of our different grippers represented a clearly-understood and fully-appreciated level of hand strength. Thus, whether in Mozambique or in Michigan, everyone is on the same page when talking about their success in mashing a No. 2 Captains of Crush gripper, for example, or their mighty efforts to conquer the CoC No. 3 or the CoC No. 4. Further, we understood the variables that determined both the load required to deflect the spring, as well as those that further influenced both the actual and the perceived experience of closing the gripper. That's when we also realized that there was another reason not to focus on the raw poundage (rating) of the gripper. Our most meaningful efforts, instead, should be focused directly on the factors that determined the ratings.

"Huh?"

In other words, we realized that instead of getting tangled up in numbers that at worst were like matches in the hands of a child and at best required something akin to a string of clarifying footnotes, we should focus directly on the very qualities that defined each of our well-understood gripper models.

And that's just what we did.

With an eye toward that goal, we continued to refine our design and manufacturing processes, and the result has been our ability to produce Captains of Crush grippers that are about as similar to each other as identical twins. Incidentally, don't

just take our word for this: the next time you buy a few No. 2 grippers from us, for example, line them up, squash them, check them out from any perspective you wish and you will see what we mean. Absolutely perfect? No. Amazingly close to true perfection? Yes.

And the most ironic part of this whole thing is that we who developed and promulgated the idea of grippers as uncalibrated have delivered to the world a gripper that is the closest thing to actually being calibrated that the planet has ever seen. Funny how things sometimes work out, isn't it?What's between your ears affects what's in your hand

Thus far, every time we have mentioned differences between grippers or the loads required to shut them, we have treated the subject as if we are only discussing objective differences, but this is only part of the story. The psychology of these grippers, which focuses on the subjective factors, is also very significant, even if never discussed.

For example, as mentioned above, when we introduced the process of stamping the trademark of each gripper on its handles, we stamped both handles. Later, we switched to stamping just one handle. Interestingly, when we switched back to stamping both handles, one of our self-appointed spokesmen announced that "double threes" were something of an insidious plot we launched to deceive and swindle the grip world.

Anyway, the rumors flew, and we had people swear that the "new" grippers were harder than the "old" grippers; other people swore that the "new" grippers were easier than the "old" grippers; still others probably just swore. Harder?! Easier?! The truth is that the only the difference was that now, once again,

we were marking both handles. Still, we understand that if someone is convinced that one gripper is harder or easier than another, regardless of the objective reality, that is just how they will perceive it, and they will most likely perform on it in a manner commensurate with their expectations.

To give you another quick example of how objectively irrelevant variables can influence perceptions of how hard a gripper is to close, consider the question that stumped you as a young child: Which weighs more, a pound of rocks or a pound of feathers? Before you laugh at those silly little children who can't grasp that a pound is a pound is a pound, consider that while we have never done a legitimate scientific study on the subject, we found that when we initially switched from steel to aluminum handles on our grippers, some people who had both swore that the grippers with aluminum handles were easier to close. Putting a spotlight on this phenomenon, we found that, under carefully controlled conditions, if you handed someone two grippers that took an *objectively identical amount of force to close*, but one had steel handles and the other had aluminum handles, the person was likely to say that the gripper with steel handles was "much harder" to close. Why? Probably because its dramatically heavier weight was associated with the idea of greater resistance and that triggered the related expectation of greater difficulty. Intuitively, this is a perfectly reasonable assumption, especially for a lifter, even though in actuality it is completely false when it comes to a gripper. And if this psychological process seems too unlikely to you, remember the purely physical analogy of identical plates on different bars and how this compares to identical springs in different handles.

In a related way, more than once we have heard someone swear that the gripper he just tried was "super tough," "really

easy," or "spot on." Remember that ability the next time you're at a lifting contest: tell them that they don't need a certified scale because you know a guy who can just glance at, or maybe hoist, the barbell to tell you if it's within specs, and maybe you even know a guy who can do the same thing with grippers. This reminds me of the time I was at a major strongman contest some years ago when someone asked what the deadlift apparatus weighed, and the response was "we never weighed it, but we think it's about 600 pounds." Next, one of the testers was asked to lift it, and he was quizzed, "Do you think it's about 600 pounds?" "Aye," he replied, and from that moment forward it was taken as weighing 600 pounds, exactly. Uh huh, and I've got a dog that can climb trees.

Finally, just to show how powerful the psychological factors can be, even with a very simple product, we recently talked to a guy who was convinced that our loading pins had gotten heavier. To emphasize the point and to keep it fair, I personally weighed three loading pins for him: two old ones that I had been using for years, and a new one straight from our inventory. They all weighed the same, so I told him what the weight was and asked him to weigh the one he had that he thought was much heavier. He did, and showing what a conscientious guy he is, reported back that it had all been in his head because the pin weighed what it was supposed to weigh, the same as it always had. By the way, lest you think this guy was some pencil-neck geek who doesn't really lift weights, he's actually a well-known and very strong guy.

We have always had a standing offer to anyone who thinks he or she has gotten a defective gripper to send it back to us because we will be happy to examine it and replace it if it truly is outside our specifications. And for those who think they can

identify weights, dimensions, or materials by feel or with a casual glance at least as well as empirical measures or precise tests can, we suggest they go into business telling fortunes or giving stock market tips.

CAPTAINS OF CRUSH GRIPPERS: GETTING CERTIFIED

Based on patent research that grip historian David Horne has shared with me, nutcracker-style hand grippers have been around since at least the early 1900s, and their appeal is easily understood. Anyone who glances at one knows what to do with it; they aren't intimidating in appearance; and they are portable, practical, and fun. Far from being a plaything, when they are as tough to close as our Captains of Crush grippers, they can challenge the strongest people on the planet. What a great training tool and what a great way to establish who has the mightiest mitts!

For many years and across many miles, the whole idea of establishing bragging rights in the grip world has been closely tied to how people can do on our grippers, and to lend some order to the process, we started certifying people's accomplishments in 1991, when Richard Sorin was the first guy we recognized as having actually closed our No. 3 gripper. Back then, the process was quite informal compared to what we do today: over the years, we have had to add new rules, clarify the older ones, and so on, all in the interest of maintaining the spirit of the challenge. Each of the rules we have is tied to a particular potential infraction and each can usually be associated with a specific incident, although we view each rule as a necessary precaution against violating the spirit of this challenge, not as an indictment of a specific individual.

As part of the certification process, we have gone a long way toward tightening up the refereeing and documentation we require. In our very earliest days, a mere photograph and a credible source vouching for the person got him on the list. When Warren Tetting told me that he believed Richard Sorin could really close our No. 3 gripper and Richard sent us a photo, that evidence was good enough for us.

Now things are very different, as shown when we certified Nathan Holle on the No. 4 gripper (the second person to accomplish this prodigious feat of strength): we held Nathan to the highest standard ever, all in the interest of shielding Nathan's incredible accomplishment from the Doubting Thomases. Nathan ended up performing at three separate times, in front of three different judges (one of whom was an IWF category 1 referee), and to counter charges that the gripper itself had been tampered with, we also had Nathan follow up his effort by squeezing a factory-sealed gripper that we had brought along on one of his trials; we did the same thing with another factory-sealed gripper that we had provided to his official witness/judge on another one of his attempts. And even before Nathan had been certified on our No. 4, part of Joe Kinney's documentation included a video: anyone who would challenge Joe Kinney is encouraged to compare his video to, say, one documenting the best efforts of the earliest guys we certified on our No. 3.

We heard a rumor that the No. 4 Captains of Crush gripper that Joe Kinney closed in his video a) didn't exist, b) had been tampered with, c) was unusually weak, and d) all of the above. The truth is that a) here it is, b) it's been well-used and is in fine health, c) when we recently retested it, it came in at full strength, and d) anyone who says anything to the contrary is misinformed or has an axe to grind.

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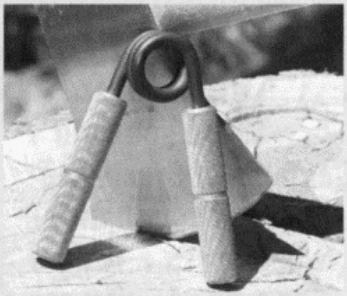


Rather than being stumped by the challenge, Joe Kinney tore into his No. 4 and chopped down the myth that it couldn't be closed. Randall J. Strossen, Ph.D. photo.

Because of the care we have put into this process over the years, obtaining this certification has become the most universally recognized accomplishment in the grip world, and in exchange for the requirements it imposes, it confers enviable status on all who make the grade.

THE LEGACY

While Captains of Crush grippers are unique by virtue of their inherent quality and their specific features, it is also vital to grasp that there is another factor that sets them apart—they have roots in strength history that no other grip device and few pieces of exercise equipment of any type can match, a sense of character and tradition that has been forged and honed over time. We have always considered it our responsibility to be good stewards of this inspiring tradition, which is why we have never made any changes to our grippers that we felt would sever their link to this rich past. Thus, for example, when we embarked on our program for improving their precision over the years, we developed the guiding principle and goal of, in statistical terms, guarding the original central tendency while

shrinking the variance. Thus, notwithstanding all of our improvements, the unique history of Captains of Crush grippers is preserved and reflected in each gripper we sell, even as we have continued our pursuit of the perfect product.

CAPTAINS OF CRUSH GRIPPERS: AN ICON IN THE IRON GAME AND BEYOND

When you hold a Captains of Crush gripper in your hand—whether it's a Trainer or a No. 4—you are undeniably connected to the world's greatest tradition of hand strength. Know that when you grab one of these grippers, you are part of this unique legacy in the world of hand strength, and that you are also connected with people whose world-class accomplishments go far beyond how hard they can squeeze something. You might not be an Olympic gold medalist, a Nobel laureate, a superstar professional athlete, a past president of the United States, a World's Strongest Man winner, or a world-renown musician, but you would not be the first person with those credentials to train on our grippers. Always remember: they are that good, and so are you.

Part II - Captains of Crush® Grippers: How to Close Them

by Randall J. Strossen, Ph.D., J. B. Kinney and Nathan Holle

Chapter 4: Basic Training

by Randall J. Strossen, Ph.D.

THINK: PR LIFT ON A BARBELL

Most people were introduced to nutcracker-style grippers via something from their local sporting goods or discount store: the familiar lightweight grippers with plastic handles and chrome-plated springs. Because these grippers didn't offer much resistance, everyone got used to the idea of squeezing them endlessly (and often mindlessly) as they drove to work or watched TV, for example. Unfortunately, it almost became a conditioned response wherein grippers were automatically associated with high-repetition, low-concentration training, and from 1990 on, one of our primary missions in the grip world has been the reeducation of people interested in using hand grippers to increase their grip strength.

Moving toward this goal, the first thing we tell people is to forget that this is a little piece of exercise equipment that weighs less than a pound. Instead, view your target Captains of Crush gripper as being like a barbell loaded to your PR deadlift, squat, or power clean: treat it with the same respect and you will immediately be on the right track. To further help our customers understand the basic principles of effective training on a hand gripper, we ask them to consider how they would train to boost their bench press, for example. If they were trying to bench 500 pounds, we ask, would they do endless sets of push-ups day after day, or would they focus on a limited number of high-quality, low-repetition sets based on a high percentage of their best lift, with an eye fixed on the goal of adding weight to the bar whenever they could? Nobody has ever answered that they would do the push-ups.

From here, we extend the analogy. Now that you view the gripper as being akin to a heavily-loaded barbell, apply the same generally accepted principles from barbell training to what you do on the gripper. “Huh?” you ask. Here's how that works.

Remember that the basic drivers for progress with your lifting are the progressive resistance principle and the overload principles, principles that go back at least as far as to the days of one Milo of Crotona, the fabled Olympic champion wrestler from ancient Greece who gave the barbell thing a boost by carrying a growing calf on his shoulders every day as a basic element in his training program. The calf grew and got heavier, increasing Milo’s load (progressive resistance), and because Milo’s muscles had to do more today than they did yesterday (overload), they responded by getting stronger. This story is described in more detail in the book *SUPER SQUATS: How To Gain 30 Pounds of Muscle in 6 Weeks* because it is the basis of effective weight training, and Milo, being such a stellar strength athlete, went on to have the world’s premier publication for serious strength athletes named in his honor: *MILO®: A Journalfor Serious Strength Athletes*.

Progressive resistance and overload: if you remember nothing else when you train, you can’t go far wrong.

Our recommended approach to training on our Captains of Crush grippers has mirrored this philosophy, so we have long advised people to begin with a program that is based on several sets of low repetition training: do a warm-up set or two, followed by two or three work sets, and that’s the essence of an effective basic training. In fact, that is what we consider the core training program for everyone who is interested in boosting his or her crushing grip: do one or two warm-up sets

followed by two or three work sets. Remember, it is no accident that the 5x5 program, with two progressively heavier warm-up sets followed by three work sets at maximum effort, is so effective for building strength on the big lifts. Also remember to think of your Captains of Crush gripper as being like a barbell loaded up with big plates, and your efforts to close it should parallel what you would do to lift that bar.

Taking this one step further, we suggest that, just as you would stretch your joints and muscles before hitting some heavy squats or snatches, you should stretch before intensive grip work. And while progressive resistance and overload sound remarkably simple and straightforward conceptually, adhering to these principles in practice can be pretty rough, so at least some people, at some point in their gripper training, do best to include forms of training that go beyond just clicking out reps on their favorite gripper.

THE IN-BETWEEN ZONE

Starting in 1990, IronMind began selling plate-loaded grip machines, and doubtless has been the world leader in the design and sales of this type of machine for heavy-duty applications. The traditional machines of this type have handles that move parallel to each other, and in 1996, we pioneered a new concept by introducing a plate-loaded grip machine (the Hardy Handshake) that was specifically designed to work like one of our grippers, but with all the advantages of a plate-loaded barbell in terms of progressive loads, static holds, negatives, and so forth. The plate-loaded grip machine world has never been the same since: a lot of people have benefited from training on this machine, and more than one flagrant example of what we might call “very sincere flattery” appeared on the market years later, underscoring the merits of

our ground-breaking design.

In 2002 we introduced our latest parallel-handled plate-loaded grip machine (the Go-Really Grip™ Machine), the most advanced in our family of these monsters to date, and this time we added features that, for example, allow for increased range of motion in the closed position without pinching the hand, plus the comfortable handle reduces wear and tear on the heel of your hand. In any event, regardless of its exact configuration, we feel that a plate-loaded grip machine, not a vast *mélange* of grippers, is the key to closing whichever gripper has caught your eye. Here's how that works.

Over the years, we have had people suggest, "How about making a gripper between a Trainer and No. 1." Fill in any two grippers you prefer, and you get the picture—-certainly a very reasonable request, but there are a couple of additional considerations that should be thrown into the equation.

Remember how we introduced the gripper world to the analogy based on uncalibrated barbell plates? Remember, too, how even with the remarkable progress we have made in the last decade and the incredible precision of our latest grippers, we are the first to fully embrace that the concept that a truly-calibrated gripper of this type cannot exist either in principle or in fact.

Thus, there will always be some variability among grippers, and the more subdivisions you have along with the more variability you have, the more likely you are to end up with grippers that ostensibly represent different closing forces, but that in fact overlap. In point of fact, even the grippers we sold in 1990 did not overlap: each model represented a clearly distinct category with specifically defined features, and with

our great success in decreasing the variations over the years, we have only buttressed the clear poundage distinctions from one of our grippers to the next. Ironically, a recent attempt to imitate our CoC grippers—commercial ballyhoo aside—did little more than turn the clock back about a dozen years, and as part of this regression in quality, the specter of unnecessarily imprecise grippers reappeared in the world of hand strength.

Now consider what happens when you begin with a sub-optimally designed and manufactured gripper and start to offer a range of intermediate steps? Standardization goes out the window, inconsistency problems are compounded, and a customer ends up with a pile of grippers which actually overlap in strength. We recognize that some people just like to collect grippers—any grippers—which is fine, and that some people are perfectly happy to work with nothing more than our established models within the Captains of Crush gripper line. Others would like to have alternative ways to progressively manipulate the load in their quest to move up the ladder of Captains of Crush grippers. For these people, especially if they are very serious about their grip work, we think a plate-loaded grip machine is a far superior choice to accumulating a pile of supposedly intermediate but, in fact, overlapping grippers. The plate-loaded grip machine, besides being more effective as far as progressive resistance goes, is also more versatile and ends up being cheaper to boot. Anyway, that's enough talk, let's get back to squeezing the daylights out of your grippers.

CORE TRAINING

So we have a basic program that might look something like five sets of Work directly on your gripper, with the first two sets being progressively heavier warm-ups and then three work sets. Base the specifics of this framework on your own

experience, so for example, some people might prefer only one warm-up set, but they might increase the reps to something in the range of ten or twelve. People just beginning their training on Captains of Crush grippers might begin with one work set for the first week or two, and then progress to two work sets for another couple of weeks at least, before progressing to three work sets if they even feel the need to add the additional work.

Coming back to the 5x5 program, here's how it might look in practice. Suppose you have already established yourself as having an unusually high level of hand strength, as witnessed by the fact that you can click out a few reps on a No. 2 Captains of Crush gripper. What would your training look like? You might do five reps with a Trainer as your first warm-up set, followed by five reps with a No. 1 as your second warm-up set. Next come your work sets, so named because this is where the effort you make will drive the progress you make. This is when talking about progressive resistance and overload won't buy you anything but air time, but doing what these principles require will earn you stronger hands. We want you to do about three work sets with your No. 2, and we want you to go to failure on each one.

• Be serious when you train, which starts with keeping your mouth closed except when you want to take a deep breath for a maximum effort. If you yak when you squat, you should try shutting your mouth, slipping some more plates on the bar, and making some progress instead of just talking about it. The same thing applies on the grippers: close your mouth and close the grippers.

• Be thoughtful about the details. Most people get the big things right, but they blow it on the little things. If you are serious about making progress and have your eye on closing

any of the toughest Captains of Crush grippers (No. 2, No. 3 or No. 4), don't be cavalier about how you do any of the little things related to your grip training. Read the precision with which Nathan Holle chalks his hand and sets the gripper. Ponder what Joe Kinney tells you about achieving the right state of mind.

• Write down what you do each workout, not just the movement, the reps, and the sets, but also include some comments on how you felt and what you learned. Some of you have probably read what I have written in the past about the potent psychological benefits of writing down what you do in training and how Tommy Kono, the fabulous weightlifter, has notebooks containing the written records of every lift he made in his career, which included medals in three Olympic Games.

• Set a clear-cut goal, with the benchmark defined in terms of both the accomplishment and the time when it will take place. A goal that fails both of these criteria is something like I want to improve my grip. A goal that meets both criteria is something like: I want to be able to do 10 full reps with a No. 1 Captains of Crush gripper by March 24.

• Goal-setting is another training technique with proven psychological underpinnings and with real-world payouts, and if you want to get a notch more sophisticated about it, use a multi-staged approach that incorporates goals set over different periods of time. For example: I want to hit ten full reps on the No. 1 Captains of Crush gripper this week; I want to close a No. 2 by June of this year; and I want to be certified on a No. 3 Captains of Crush gripper by Christmas!

We like to limit the reps on the work set to about 10 or 12, and at that point, we would recommend that at least one of

your work sets be done on the next gripper up the ladder: you probably won't close it yet, but this is the time to start working on it. Later in this book, you will be introduced to advanced training techniques, such as the negatives pioneered by Joe Kinney or the partial movements favored by Nathan Holle, but for now we're going to tell you to just squeeze the daylights out of your gripper.

If you have a plate-loaded grip machine, use it to work around your grippers. For example, it is perfectly suited for your progressive warm-ups, and after your best efforts on your target gripper, you can do a couple of work sets on your grip machine using the exact load suited for your target rep range. Thus, someone working to close a No. 2 gripper might do the same two warm-up sets as the person in the workout above, followed by one or two work sets on a No. 2 gripper, but they could then switch to a plate-loaded grip machine for a couple of sets of full-range movements that bring failure at, say, about five reps.

With a plate-loaded grip machine, it is also very easy to do partial movements—focusing on the final inch, for example—as part of your training. Generally, if you are including partial movements, we would recommend that you finish your full-range movements first (on a gripper and/or on a plate-loaded grip machine) before turning your attention to some work on partial movements.

JOHN BROOKFIELD'S CONTRIBUTIONS

Putting together these pieces, someone who has first trained for a month or more on a basic program such as the 5x5 core program outlined above can add two or three sets of partial movements to his or her full-range training, as a way to keep

progressing. An alternative way to layer another level of work on top of the core training is to use a technique called strap holds, which was devised by John Brookfield (see the July 1996 issue of *MILO*, Vol. 4, No. 2). This technique involves hanging a small plate on a strap that is held in place by squeezing a gripper on it: ease up on the gripper and the strap, along with the weight attached to it, will come crashing down. Strap holds can be an invaluable way to boost your final drive on whichever gripper you are working to close.

For advice on how to take things up another notch, let's turn directly to John Brookfield, who is known not just for being the second man in the world to officially mash our No. 3 Captains of Crush gripper, but even more impressive, he's known for being all-around strong from the elbow to the finger tips, so he brings a unique perspective to grip training. One of the cardinal characteristics of John's approach to training is creativity, and that, as you would guess, means that John's training is varied, as reflected by what he recommends for aspiring Captains of Crush:

1. Warm-up - Go-Really™ or Hardy Handshake™ grip machine, medium weight, 6-8 reps

2. Rolling Thunder™ — 3 sets, medium weight, 5 deadlifts

3. Captains of Crush® grippers — 3-4 heavy sets, 3-5 reps

4. Titan's Telegraph Key™ — *thumbs*, 3 sets, medium weight, 15—20 reps

5. Outer Limit Loops™ OR Eagle Loops™ or Claw Curl™ - 2 sets, light weight, 25—30 reps

6. Cool Down with Dexterity Balls™ — 5 minutes per handIn addition, John says, "I did not put the Close the Gap straps [for doing strap holds] into the routine. The straps should be used

especially by the people who are gripper fans, trying to move up the ranks to close the next gripper but [who are] having difficulty. I suggest using these straps once a week during your routine after you are well warmed up; try to lift as much weight off the ground as you can, using the gripper and the strap, instead of holding for time, as this method seems to produce better results. Try the heavy lifting 3 to 4 times with each hand for the best results."

Later in this book, you will read about the training philosophies and actual recommended routines of the only two men in the world currently certified as closing a No. 4 Captains of Crush gripper: Joe Kinney and Nathan Holle. Be forewarned, authentic Joe Kinney training isn't for people with a half-baked interest in grip training, and Nathan Holies approach, while dramatically different, also depends on a level of mental toughness that goes far beyond the ordinary.

FINDING THE RIGHT TRAINING LEVEL

Our final two cents on your overall training is that we think it is fine to be concerned with overtraining, but our feeling is that there has been an overemphasis on the dangers of overtraining and too little concern about the danger of undertraining.

When you train hard, your body needs time to recover: it is during this resting phase that your body will overcompensate for the rigors of training, and it will grow stronger as a way to meet the challenge you doled out. If you allow insufficient recovery time, it is correctly pointed out that you not only won't gain, you will regress and are probably courting an injury in the process. On the other hand, once you have recovered, if you don't reimpose a training load on your body, the insidious de-training phenomenon takes over. This is what causes you to

slide backward when you quit training for an extended period of time. We find more people concerned with overtraining than with under- training, and we think most people would make better progress if they boosted the quality, intensity, and volume of their training (our preference is for the first two factors, but the third will do in a pinch).

Having explained our opinion that most people are probably making sub-optimal progress because they are undertrained rather than overtrained, we also feel that because they are so accessible and so addictive, overtraining is a real concern with Captains of Crush grippers. Changing your clothes, getting to the gym, doing a bunch of pre-lifting stretches and then maybe half-a-dozen progressive warm-up sets before you hit a really heavy weight in, say, the clean and jerk is one thing, but grabbing your favorite gripper is quite another. While the effort required to go after the big clean and jerk acts as some protection against your inclination to overtrain the lift, the ease with which you can attack a hand gripper paves the way to overtraining.

If you ache, your enthusiasm is ebbing, and your best efforts are going backward instead of forward, you are probably overtrained, and the best thing you can do is just plain put your gripper away for a few days, or maybe even a week or two. Because of the temptation to overtrain on our grippers, more than one person has had a breakthrough PR after a short layoff: they were overtrained and when they finally recovered, their strength levels popped up a level as a result. Remember: don't mistake laziness or being a wimp for a legitimate concern about overtraining, but also don't make the error of failing to take your foot off the gas when it's time for a pit stop.

WHICH GRIPPER SHOULD I START WITH?

Captains of Crush grippers began with three models: the No. 1, No. 2 and No. 3, with each corresponding to a definite level of grip strength. People unfamiliar with our grippers sometimes have a hard time believing us when we say that most people who lift weights won't be able to close "even" our No. 1 gripper the first time they try it, but it is true. Our No. 2 represents a level that signifies unusual hand strength—we are now out of the realm of the ordinary and are talking about genuinely strong-handed individuals. Our No. 3 represents what we consider to be world-class crushing grip, and for over a decade and half it has stood as the most-recognized symbol of grip strength in the world. Our No. 4 takes things to an entirely new level, and in our thinking, represents the final word on really tough hand grippers—someone who has the hand strength to mash a No. 1 for about ten reps, for example, will barely move a No. 4.

As often as a No. 1 Captains of Crush gripper will stop the average person who lifts weights on his or her first try, we occasionally see someone mash a CoC No. 2 on his first try. This is rare to be sure, but it does happen, and when it does, in our years of observation, it is more likely to be done by someone whose daily work involves his hands than it is to be done by someone who "merely" lifts weights. In 1993, for example, under extremely bad conditions, at the Yukon Jack National Arm Wrestling Championships, the mighty Cleve Dean kindly obliged me and gave a No. 2 a squeeze: he mashed it as easily as if he were crumpling a piece of paper. Cleve wasn't a lifter, but he had years of farming and raising pigs under his belt, and his hand-wrist strength was about three notches north of formidable. Incidentally, John Brookfield and

I have had a standing joke for years about the mythical flooring contractor, as our way of personifying the mysterious person someone else swears can mash—or did mash—our toughest grippers, but who can never be found when it's time to document the event. Please understand, though, that we mean no disrespect with this joke, because John and I both fully subscribe to this working hand-strength concept. In fact, some pretty good advice for someone who wants to get strong hands is get a job where you're using your hands for something physically tougher than tapping away on a keyboard.

World's Strongest Man competitor Jesse Marunde, the first teenager to be certified on our No. 3 Captains of Crush gripper, got his start in grip training as a child working on his grandfather's salmon fishing boat in Alaska where he spent every summer. Part of Jesse's job, George Farren explained to me, was to sort the fish, which they would toss to him. At first, Jesse had to use two hands to snag each fish in midair, but after doing this long enough, Jesse developed the ability to catch each fish with one hand, something Jesse would later tell me nobody else on the fishing boat could match. And that, Jesse and George will tell you, is where it all began.

In 1992, recognizing that most people could not close our No. 1 Captains of Crush gripper right out of the box, and that the gap between a typical sporting goods store gripper and our No. 1 was too large for most people to bridge, we acted on a suggestion from Major A1 Bunting, and our Trainer was born. Far from being a wimpy gripper, the Trainer is where most people begin their journey up the grip mountain. By its very character and construction alone, it is leagues apart from a mass-market grip device, and when you give it a try, you will see that you needn't hang your head in shame to be seen

squeezing one.

When it comes to selecting the right gripper, we often get phone calls that go something like this:

Customer: “It’s my husband’s birthday and he wants a Captains of Crush gripper, but I’m not sure which one to get him.”

IronMind: We have five CoC models: Trainer, No. 1, No. 2, No. 3 and No. 4. Most people start with either the Trainer or the No. 1.

Customer: Well, my husband has 20" arms, a 53" chest and bench presses over 500 pounds, so I’d better get him a No. 4, unless you have a No. 5.

IronMind: Your husband sounds like a really strong guy, but these grippers are a little different from what he’s probably been doing, unless he’s been doing some grip work.

Customer: A little, but he mostly does bench presses and curls. I’ll tell you, he can barely get a 2XL T-shirt on—his chest and arms are so big. I’d better get him a No. 4. Are you sure you don’t have a No. 5?

IronMind: Does your husband maybe use his hands at work? Is he in construction, for example?

Customer: No, he’s a car salesman, Ford trucks, and he sells a lot of them.

IronMind: That’s great, so if we had to just guess, based on what you said, we would recommend a CoC No. 1 for your husband, especially if he has something else he can warm up on. He might not close it the first day, but we’d bet that he’ll get it pretty quickly. And when he can do about 10 or 12 full, consecutive reps on the No. 1, we’d recommend he start

working on a No. 2.

Customer: OK, but what if it's way too easy for him? I mean, I don't want to brag, but he has huge muscles. IronMind: Yes, we're sure he does, but don't worry: if it's the wrong strength, he won't be stuck with it because he's welcome to send it right back, and we will exchange it for a gripper that is harder or easier."

Another frequent conversation goes like this:

Customer: I'd like to get a Captains of Crush gripper and I don't know which one to get, the Trainer or the No. 1.

IronMind: Have you been doing any crushing work before, like with sporting goods store grippers?

Customer: Oh, yeah, those are easy. I can do 50 (or a 100 or 200 ...) reps with those, no problem.

IronMind: Well, in that case, we think you'd be happier starting with our No. 1 instead of the Trainer.

And for customers who have had no previous grip experience and don't use their hands at work, even if they lift weights, we tell them to start with a Trainer. As we said, it's not a wimpy gripper, and if you haven't had any previous experience training your crushing grip, it's probably your best bet.

OVERALL STRENGTH, AGE, BODY WEIGHT, AND HAND SIZE

While there are certain predictable patterns among different feats of strength, strength is very specific in ways that are not readily apparent to people who aren't immersed in this stuff. Thus, someone might note little correlation between what one can wrist curl and how he or she performs on a gripper and conclude that hand strength is something of an enigma, or

think that a cheating lift on a grip machine is a good predictor of what he can do with a gripper, which also isn't the case. There is no mystery here: different muscles or the same muscles used in different ways lend themselves to different results.

Thus, while it seems counterintuitive, closing these grippers can be pretty independent of your overall strength. Since our earliest days, IronMind has dealt with the strongest men and women on the planet, and we have customers with ferocious levels of overall strength who would be at around the midpoint on our grippers. On the other hand, we also have customers who have closed our No. 3 Captains of Crush grippers who would love to be able to squat 300 x 20 and some who might not even be able to do an honest deep knee bend with 300 for a single (and yes, we mean 300 pounds, not kilos). Strength really is a lot more specific than most people would guess.

Similarly, the relationship of age, body weight, and hand size is often different from what might seem intuitively obvious. Generally, most people will do their best lifting in their twenties to maybe their early thirties, and everything else being equal, bigger and heavier people lift more than smaller, lighter people. "Fine," you say, "but now tell me something I don't already know."

Fair enough.

How about the fact that grip strength seems to be very atypical in these two regards: age and body weight seem to have little bearing on one's performance compared to the major lifts. Thus, considering our list of people certified for closing our No. 3 Captains of Crush gripper, as of this writing, we have someone as young as 14 (Mike Sanderson) making the grade,

as well as someone as senior as Green Bay Packer great Gale Gillingham, who was 55 years old at the time he was certified. As far as body weight goes, Jeff Maddy probably set the high water mark at 518 pounds, and just as you would expect, we do have a bunch of big guys on the list, but would you have predicted that we also have someone who was less than 150 pounds? Satohisa Nakada only weighed about 137 pounds at the time he was certified.

"But how about hand size?" you ask. "I have small hands, so I can never succeed at closing your toughest grippers."

"Not so," we reply and we tell people that Richard Sorin once sent us a plaster cast of his hand(!), perhaps to emphasize what he has always said about how his hands are not unusually large, especially when you consider that he's about 6' 5-1/2" tall. What might be telling, though, is the thickness of the hands, and I remember how Joe Kinney, when he was on his quest to officially close our No. 4 Captains of Crush gripper (which he succeeded in doing, and in the process, became the first ever to achieve this landmark measure of grip strength), told me how his hands had thickened so much from his training that he outgrew his work gloves and had to split the backs of them to get them on his hands. And while people who are concentrating on closing really tough grippers tend to overlook their thumbs, Joe Kinney's massive thumbs have not gone unnoticed in the grip world—big, strong thumbs lend both stability and strength when you're clamping down on a gripper.

THE CARE AND FEEDING OF YOUR GRIPPER

A loyal IronMind customer, the late Frank Gancarz, affectionately referred to his grippers as Papa Bear (No. 3), Mama Bear (No. 2), and Baby Bear (No. 1), and we once said

that when we first met Bob Bollenbach and heard about his gripper collection, we remarked that each was almost like a member of his family: readily identified, unique qualities duly noted, and thoroughly appreciated for what it was. Some really strong guys, we have said, sleep with Captains of Crush grippers under their pillows.

When you have something this special, something you like this much, you'll be happy to know that this isn't a high maintenance source of joy: save that for your horse or the exotic car you have tucked away. No fancy carburetors to tune and not even a stall to muck—just give the spring an occasional quick wipe with a Sentry cloth or a rag covered with WD-40, 3-in-l, or any other light oil. This will block moisture, keeping the spring from rusting, and it will also tend to keep your gripper running in silent mode, rather than creaking like your (grandfather's) knees or a chirping like a bird announcing a new day.

The knurling on the handle of your gripper can clog up with chalk and whatever else it picks up from your hand, so take a stiff nylon brush and clean out the knurling periodically. We once got an e-mail from a customer who wondered why we had a problem unique to our No. 2 grippers: he swore that the knurling got noticeably smoother in just a couple of workouts, and he was convinced that the material we used for the handles on our No. 2 Captains of Crush grippers was different from what we used on our other grippers, causing this problem. We explained how the knurling was probably just clogging up with chalk, told him how to clean it out, and that was that.

We used to get letters that began something like, "Wow, I am so strong that I broke one of your grippers . . . ." Gently, we would explain that this was just a reflection of metal fatigue

and that anyone could break a gripper—in fact, even in the early 1990s, when the life span of the grippers we sold was just a fraction of those we sell today, we had noticed that our strongest customers virtually never broke grippers. At some point, depending on a pile of specifics, the spring will just break, so always be prepared for that and always treat your gripper as if it will break on the rep you are doing right now. If you've never seen the broken end of gripper, let us tell you that it is sharp and mean. You don't ever want to have one of these make contact with you or anyone else.

Short of breakage, we have had people ask us if the strength of our grippers changes over time with use, and we have to say that under normal operating conditions we have never observed any change, and the most knowledgeable people we have met in the field have shared this feeling. However, if a gripper is taken past the tensile limit of the spring, the spring will deform, and this would result in the gripper being easier to close after the deformation, but we have never seen this happen to one of our grippers in normal use. Short of this, clicking out reps or even holding a gripper shut for hours (something we would not recommend) should have no impact on either its shape or the force required to close it. Having said that, even though we have heard amazing stories about exactly the sort of punishment our Captains of Crush grippers have withstood, we think it seems possible to inflict damage on one of our grippers that could deform the spring.

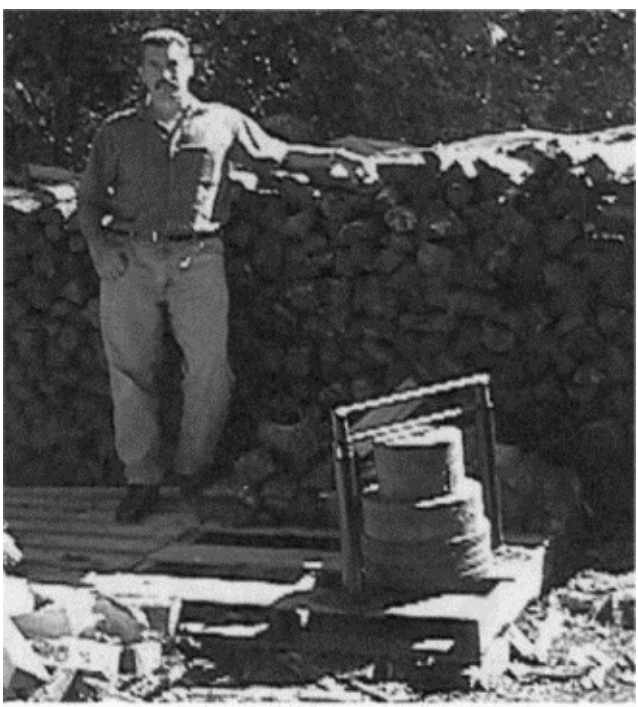
Finally, while we have to say that we did not design our Captains of Crush grippers to go beyond their normal range of motion, anecdotal data gathered from people who have filed the ends of the handles to increase the range of motion have not shown deformation; however, please be prepared for this

possibility. This might be one of those things like being able to prove on paper that a bee can't fly, yet we all know they do.

Chapter 5: Mortal Combat with the Captains of Crush® Grippers: How I Closed the No. 4

by J.B. Kinney

Having a 400-pound bench and a weak grip is like having a powerful truck that can't get traction; so man invented four-wheel drive—and GRIPPERS.



J. B. Kinney . . . the real deal.

There are a lot of good reasons why a man would want a strong grip. Tradition is a good one: whether you like it or not, men are expected to have strong hands. Worse than that, you're constantly being compared to older generations. This situation in particular is a good enough reason to be interested or

concerned, or both. You see, there are some old guys out there who got stronger by accident than a lot of us will ever get on purpose. You'll be compared to these fellers, and there's no way around it: somebody's uncle, somebody's pa, somebody's gramps!—it could be embarrassing. I've seen some of these old fellers in action, and sometimes it's a very humbling thing to see. It's not much fun to watch some old guy who uses a cane twisting horseshoes and squeezing them shut; even if he needs to use two hands on the squeezing, it's still tough to match. And then you've got to listen to how he's so weak now, and back when he was your age, he could have really showed you something. These guys are out there, and you'll run into one sooner or later. So, let's be prepared.

I'm guilty of it myself. It's great fun to destroy horseshoes and slam grippers in front of the young fellers. "Come on, son, give this gripper a try." "Hand me that horseshoe." "Here, let me open that beer for you." I'm just having a little fun, but it's easy to see the disappointment on their faces when this little guy with grey hair makes them look weak. I'm very encouraging, though, and always part ways with a kind word.

Another good reason is respect: the firm handshake. You should have that. To some men this is very important and expected. Sometimes the handshake is a little contest, and you want to win every time. It's that simple.

I know a man who is a school teacher; he teaches auto repair to high school students. I have visited his class a few times. Yes, there are some unruly students there. Some children these days have very little respect for anyone. This teacher has even been physically challenged by some of his students. He challenged them right back— with his grippers. You know how that went: order was restored, respect was restored, the pecking

order was re-established.

Another good reason is that almost anyone, regardless of their age, can enjoy the challenge the grippers offer and even some level of competition. You don't have to close the No. 4 to have fun. Back when I first got my No. 2, I took it to work with me a lot. I didn't think it was much fun, but everybody there had a great time with it. They never got tired of it. Some of these fellers were in their seventies, some were teenagers. They all had great fun in their casual competitions. None of them was a weight lifter, but this was something they all could do, and they had fun.

Grip strength is something anyone can get satisfaction from working at. Age is not a problem. You don't need to be the cardiovascular equivalent of a deer. You don't need legs like Paul Anderson. Heck, you could be in a wheelchair, and still have a great time and develop a ferocious grip.

Location is a good reason to mess with the grippers. You see, not everyone lives where there are gyms. Some folks live way off in little towns of 300 folks or so. Then there are the folks who live 20 minutes away from those little towns. With these fellers, sport is levering heavy sledgehammers and seeing who can hold things like old car batteries out in front of them the longest. These guys like gripping too. Most of them have destroyed every bathroom scale they've ever seen by squeezing them like grippers. The Captains of Crush grippers are much more portable than the bathroom scale. Guys can stick a gripper in their pocket and they're ready to go. The urge or instinct to compete can be satisfied, any time, any place.

A friend of mine, Tony Breeden, closed the No. 2 gripper the first time he ever touched it, either hand, no problem. He never

lifted weights, but he and his brother destroyed a lot of bathroom scales by using them for grippers. Yep, even with no gym, no weights, no machines, these fellers found a way to work out and compete. Funny how the competition turned to grip strength—maybe it's just natural. Don't fight it.

GETTING STARTED

If you're reading books like this, you're probably already started, but give this a good looking-over anyway. Some of it might help you here and there along your road to strength. Even if you're an old hand at this strength stuff, you might find a useful tidbit in here somewhere.

If you plan to change your workouts any because of what you read here, then good. You can call that restarting. The most important thing to do when restarting is to get a new notebook and make an honest assessment of where you're at now. I don't mean an honest assessment like we're used to doing. I mean a real one, one where you are judged harshly on your attendance, effort, dedication, and intensity. Do it as if you're judging your worst enemy's performance. You, of course, can't tell a lie, but he sure won't get any extra from you, right?

Write down your findings in the notebook and you're on your way. You'll be reading a lot of stuff about keeping score. Well, this here honest assessment is the first page of your new scorekeeping notebook.

You probably already know if you're somebody who can make gains with low rep workouts or not. Maybe you're the high-rep type of feller. Either way, high reps or low reps, you'll need to be using some serious weight, or in the gripper-only workouts some serious resistance, maybe not right away though, especially if you're new to grip work.

If you are new, you should spend some time on the light grippers. Stick with medium to low rep sessions at first in order to toughen up your hands. Doing holds for time is a good way to get the hands conditioned for what's to come. Conditioning the hands is very important.

The proper conditioning now may prevent injuries later. Your road to the level of strength that you want may be long, so be prepared. Do it right and get those hands toughened up. Some grip guys that I know have recurring injuries of the tendons on the inside of the fingers, right where the gripper handle touches the fingers. Don't let this happen to you. You can prevent these injuries by conditioning the hands.

Remember to keep score even if you're just starting out. These scores will always be there to help you judge your progress.

GEARING UP

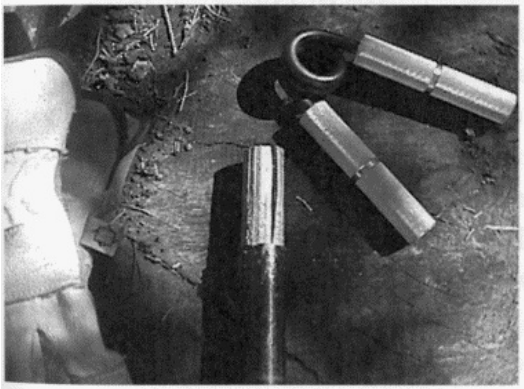
First, we will be looking at equipment options and, later, supplements for training your grip. The equipment will not be glamorous, and the supplements won't have pictures of skinned people on the cans. You're going to like this: let's get started.

You don't need much gear for this job. My own training was done on grippers and a grip machine. If you can afford a grip machine, get one, it'll help; its benefits are obvious, and we don't need to list them here. If you can't afford a grip machine, don't panic; you can make one or have someone make one for you, or you can just forget about it.

You're also going to be modifying your hand gripper. First, you'll want to file metal off the inside of the handle or handles of your hand gripper so that the gripper closes more tightly. Be

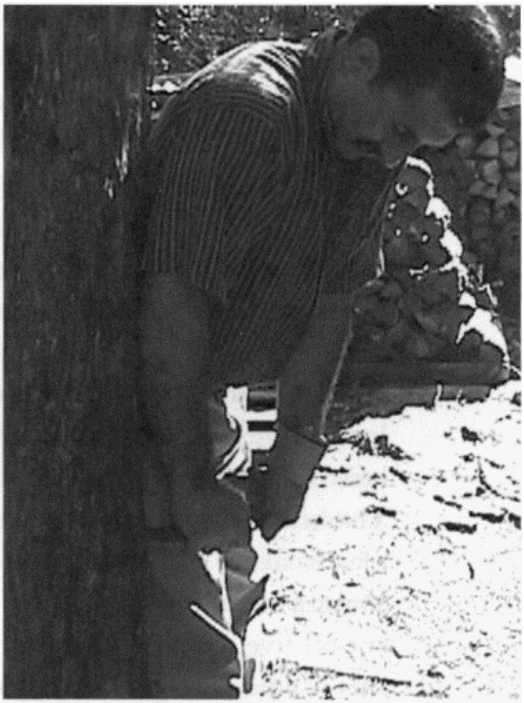
sure you don't go past f halfway on the ends, and watch what you're doing length-wise too— only take off what you need to. If you go to the halfway point, looking at the ends of the handles, you'll have a gripper that will let you train far enough past the range to make a big difference. This added range will be great for you. Did you ever notice that the gripper gets much tougher as you close it? Sure you did. Well, now, along with the added range, you'll get more resistance, too. Of course, now that you've got it all chopped up, your grippers not official anymore, but it's great for getting strong with. Maybe you should get two of each, starting with where you're at now, on up.

J. B. Kinney's weapons of choice (clockwise from right): Captains of Crush gripper, extended handle, leather gloves, and sleeve for extended handle.



Here the sleeve is being inserted into the extended handle . . .

and, finally, the gripper handle is inserted into the extended handle and sleeve unit, for a snug fit.



With the extended handle firmly lodged in a tree, Joe Kinney shows the proper position for doing reps, steadying the gripper with his gloved left hand.

I figured out the second thing you need to do with your hand gripper when I was doing forced reps or forced closures, I guess we'll call them—you know, the old press your hand down against your thigh and cheat it shut. Well, this is productive, but clumsy: you've got to be sitting down or bent over, and either way, after a while your leg is more beat up than your hand. The knuckles aren't looking all that good either, where you tried to drive them through that denim a million times. After a while, you just can't handle it. Now comes a very helpful tip: handle it! I don't mean just grunt and bleed all over yourself, I mean make yourself a handle for your grippers, a handle that will let you cheat them shut for as many reps as you think it will take. No more raw knuckles and bruised thighs for you, just very productive workouts with grippers. Now where did I put my hacksaw?

For the handle, you need a piece of steel tubing that's nine or ten inches long. I used a piece of one of those thirty-dollar barbell sets with the hollow bar. The tubing from this set was one-inch outside diameter. The hole was way too big on the inside for the gripper handle, but the plastic sleeve that was on the outside of the bar looked useful. I cut off about nine inches of the steel tubing and de-burred the ends. Then I cut off five inches of the plastic tubing and split it the long way. Now, this is where we get into some trial and error, maybe. On the stuff I used, I had to remove just over an inch of plastic the long way, on the same length as where I split it. The plan is to get the plastic to act as a lining inside the steel tubing. Once the plaster liner is in place, the handle of the gripper slides in and out and the plastic liner stays in the steel tubing. Perfect—not much to look at, but exactly what we need.

Now you need a place to use this handle. We don't want it to

just be another thing we try to drive through our leg, right? This won't be a permanent mount; this "place" is just a one-inch hole drilled into some heavy framework around a doorway—in my little building, for me. You need to find a place where the wood is at least four inches thick. When you do, you'll want to stand there and figure the right height for the one-inch hole (yeah, make it one inch, you'll need a good snug fit). The height I use is halfway between the wrist and the knuckles when you're standing there with your arms by your sides, regular-like. Drill there and you have a real comfortable station for forced reps. Using a doorway is good because you can get around it good—you can keep the gripper in front of you better than if you drilled a hole into a wall. A post in an open area, like a barn, would be great. Just having the hole drilled into a flat wall is the worst choice. When you start to bend forward to cheat the gripper shut, something bumps the wall; besides, you don't want your footing limited. Make sure you don't drill into any electric wires—that could ruin your workout.

MORE GEAR: LITTLE THINGS YOU CAN BUY THAT'LL HELP A LOT

1. Black electrical tape: just tape one handle, the one your fingers will be going on. This will let you get more reps without the knurling eating all of your skin off—simple and cheap.

2. Wrist wraps help some folks, sometimes me—I like them. I wear them tight and loosen them during every break.

3. Liniments aren't just for after something is sore; they're great when applied before the work, to prevent injury by really perking up the circulation. Baseball pitchers get liniment applied before the game; race horses get liniment and wraps. In both cases, what they're looking for are the dual benefits of

preventing injuries and improving performance.

WORK ENVIRONMENT

Let's take a quick look at your work environment. The work environment is more a look at what not to have than a list of things to get. First of all, notice it's called a work environment, not a gym. Building it into a work zone isn't hard: just disable the radio and you're halfway there. The idea is that it needs to be a place where you won't be interrupted by phone calls or people. That might not sound very family-oriented, but that's what is needed for the best results, and more importantly, for the prevention of injuries. The ideal would be a place where you could do your math homework if you had to.

Mine is a separate building, but a basement or garage would work, too. What "makes" it into the work area is me insisting that everyone leaves me alone while I'm gripping. That's all. After a few weeks, everyone will figure out your schedule and you'll be doing great. Bring your snacks and drinks, just like you're leaving to go to work. This isolation is a great incentive to get the job done. Sometimes it's a little hotter out there than in the house. In the winter, it's a whole lot colder. That's great, that keeps me on the job better and makes me want to get it done.

I've only been to a couple of gyms, but they were both the same in one way. They were both way too much fun: people standing around talking and griping about how there should be more benches to sit on. What a bunch of c***! Sure, there were a few men who were trying to get stronger: yeah, that's right, the squatters. The rest of those folks all seemed to be wasting time, playing with weights that were far too light. Maybe they didn't want to get out of breath as that would make it too hard

to talk about football and hunting.

If they would learn to manage their time, they could have the best of both worlds. Set aside the time for your workout—do it—and then get back to your other activities. The boys at the gym talked to each other so much they lost count of their little workouts: "Did I do two sets or three?" they were asking each other. If they put some weight on the bar, they might notice. The correct work environment will leave you with very little to do other than to work out.

STRETCHING

I would stretch briefly before each workout—just a little bit. The way I did it was to spread all my fingers and my thumbs as wide as I could and then put my hands together in front of my chest, elbows out, with all the fingertips of one hand touching the fingertips of the other hand. Then, I would draw my hands in towards my chest. Once my hands were in this position, I could feel the stretch. The closer you push your hands together, the more stretch you'll get. Keeping my hands in this position, I would then rotate my hands like I was turning a big knob. The rotation plus the readily adjustable stretch really worked. Sometimes I would do this stretching during the workout, too, if I had to take a long break. I think you can see some of this stretching on my video. I also did a few wrist curl-style stretches, just to loosen up.

Always include a few regular full-range reps at the beginning of the workout with a gripper that you can close unassisted. These don't count on the scorecard (we'll talk more about that later), but should be included, along with some stretching.

THE PLANS: WHAT TO DO

"It ain't not knowing that's hurting ya, son. It's knowing so

much that just ain't so." Having a plan is good. Having two or three is even better. Our objective is clear: hand strength with an unnatural level of crushing power. We want hands that are so strong, we're afraid to scratch ourselves.

This is like hunting that big buck deer. You've seen him and you want him. You know where he lives pretty much, but there's more than one trail he's using—lots more. You have to learn a few of them to have a chance: "He's never on this one during the rut. He uses these three in the mornings. Yeah, three. Whenever it's raining, he's in that thicket, but there's that other thicket where you saw some big tracks, and there's four or five trails going in and out of each of them." What are we gonna do?

Well, you could just get lucky and blunder into him one day, but me, I'm not that lucky. Better to have a few plans we can draw on to handle these different situations. This grip work will be a little easier than that wily buck—after all, you're in control of most of the situation most of the time. With two or three good productive plans to pick from, you'll be able to make progress under any conditions.

SOME BASIC PLANS TO CONSIDER ARE:

A. Training with hand grippers

You've got your full-range reps, forced reps, and negatives. You've got the electrical tape for high volume; you know all about the extended handle and about filing metal off the gripper handles to increase the range. That's pretty good variety for not much money. First, let's make sure we understand what we're talking about with some of these terms:

Full-range reps — full range reps are exactly what they sound like: the gripper is closed from the fully open position, then the

gripper is allowed to return to the fully open position before the next rep is attempted.

Forced reps and assisted reps — they are the same thing and are done when the muscles are too tired to do any more work, but the workout requires more reps, or when you're training on a gripper you could never close unassisted in the first place. When you cheat a gripper shut, you're doing an assisted rep. When you put yourself into a situation where you're stuck with the negative side of the movement on a gripper you couldn't close unassisted, you're in a forced rep. We do these things to ourselves on purpose—they are not as horrible as they sound. The forced rep, or forced negative, is the same when training on machines: when you squeeze up 385 with two hands, and then let go with one hand, you're subjecting yourself to a forced negative. Have fun.

Negatives — negatives are what would appear to be the part of the movement that we are stuck with, but not really what we're there to do. This, of course, is a giant misunderstanding. Let's look at closing the grippers. When you close the gripper, you're on the positive side of the exercise. When you start to let the gripper return to its open position, you're on the negative side of things. It is here, during the return to the open position, that we have the opportunity to use a negative. If you just let the gripper fly open without resisting its travel, you have missed out. If you resist the grippers return to its original position, you are doing a negative. When you use a gripper that you need to cheat shut, and you resist its return to the open position, you're getting into the best training there is. This brings us to your next word, overload.

Overload — overload is using too much weight (more than you can handle) on a grip machine, or using a gripper that you

need to cheat shut. This is how to get strong and will be explained in detail in the section on forcing adaptation. Please be patient.

Holds for time — holds (where you hold a gripper shut for a certain period of time) can be used when there is an injury you're trying to train around. It's hard to keep track of your progress when you're only doing holds, but they're better than doing nothing. When using holds for conditioning, you really don't keep score; you're just after the toughening up that the holds will provide to your skin and, most importantly, to the tendons. A bruised tendon can take weeks to heal. With proper conditioning these disasters can be avoided. If you're new to hard metal things being in your hands, you should consider holds for conditioning purposes.

BE NEGATIVE: I'M POSITIVE IT WILL HELP!

Do the negatives; don't be fooled by the naysayers. Negatives will help to make you stronger: whether you're using a grip machine or cheating out with a gripper and tape or the extended handle, the negatives work. When you're talking gripping muscles, you're talking small muscles. The best way to get these little fellers strong is to subject them to severe overload. Use the extended handle in the doorway, or just tape and guts, but give the negatives a decent chance. They worked pretty well for me.

When you're doing the forced reps with the extended handle on the gripper and the gripper stuck in the hole in the post, please pay attention to the following safety warnings I have for you:

1. No tape—nowhere—never! Don't use tape on the gripper handles when you do forced reps this way. The only time you

tape is when you're training the normal way, without the homemade handle. When using the homemade handle, you want the knurling exposed to help keep the gripper handle stable in the heel of your hand. Besides, the only place we ever tape is the handle your fingers go on, and that handle is inside the tubing when you're doing this, so forget the tape. Trust me on this.

2. Think about that wrist! Stay alert. You must be constantly aware of the situation your wrist is in. When you're using a lot of body weight to cheat a gripper shut, you cannot allow any rotation of the handle inside the tubing or the tubing in the drilled hole. There are a few ways to guard against this. They range from the high tech (stickum) to the ordinary (pine pitch); you may need to use something, depending on the fit of the parts. Keep in mind that if the gripper flips one way or the other, you could injure your wrist. When you're doing forced reps this way, hold onto the spring with your free hand to prevent rotation of the gripper—which brings me to the next warning.

3. Don't ever stick your thumb or any finger through the coil spring. If you lose control and the gripper flips to one side or another, you could injure your thumb. Besides, when the gripper is being closed, the hole in the coil spring gets smaller. You don't want to be there.

Also, there's always the possibility that the spring on the gripper could break. When you hold onto the coil spring, wear a good thick glove, like a heavy leather glove for protection, because if the spring breaks, you don't want it to draw blood.

4. This is an easy one: keep a clear head. Don't let anyone distract you. Take that radio and do a weight for distance with it

—or at least shut it off.

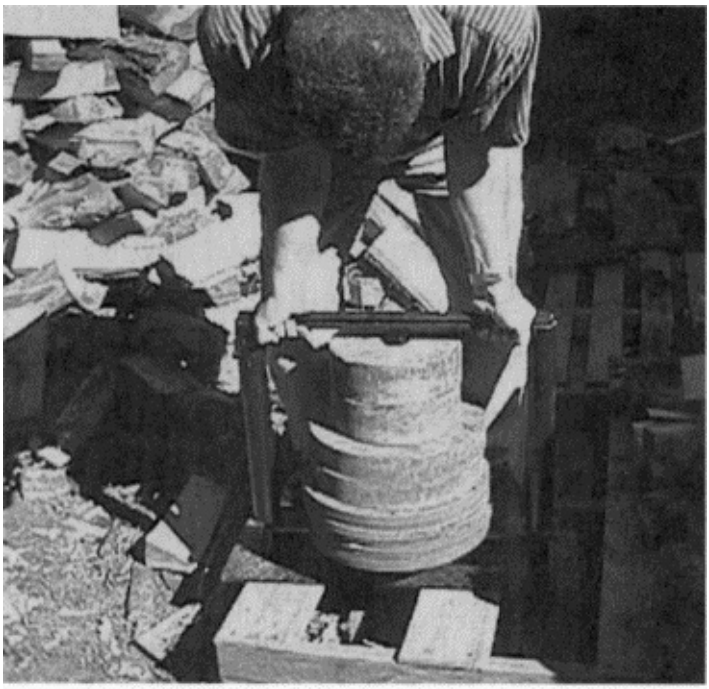
In plain words, it goes like this: I've done thousands of forced reps this way and avoided injury. You've just got to pay attention to what's going on. You're putting your wrist in a situation that could be dangerous if you're asleep at the wheel. Just stay alert; run everybody off is what I do. The thumb thing —I'm not kidding, if you insist on putting your thumbs in that hole, you need to have somebody take some nice photos of them right now, because they aren't going to look like that for long. If the gripper flips away from you, that thumb will be really long and sore. If the gripper flips toward you, that thumb will snap like a matchstick—the noise may bother your workout. Take it easy at first. Start with a gripper you can already close unassisted, just to get the feel of it. This is a good, comfortable way to get a high rep workout that doesn't ruin the skin on your fingers since the handle extension is smooth. You're in business.

The gripper with the filed handle can also be used with the handle extension: just use it like a regular one, or you can use it with the filed handle exposed, and you'll be able to work beyond the range. With the benefits of the filed handle and the handle extension, you'll really be able to use heavier grippers than you normally would be using, and you'll be able to train beyond the range.

B. TRAINING WITH A GRIP MACHINE

Grip machines: if you have one, use it. It can be very helpful and produce a good workout. There are a lot of different types available, but whichever you choose, you'll need to figure out a way to do reps that make you stronger, not just tired. Pick one that will allow you to do overloads, assisted reps, and negatives.

Do your shopping with this in mind. Use your imagination: even the most basic, primitive equipment can be helpful if you can figure out different ways to use it. A good example is the floor-model grip machine.



Joe Kinney doing holds on a plate-loaded grip machine.

It's been around for a while now, you know, the ones with the loading pins on each side or in the middle for the weights and the handles on top to squeeze together. Don't just do reps forever; load that thing up and squeeze it to the top, then let go with one hand. This will leave the working hand with a severe overload. Even if you just hold it for two or three seconds, you're still getting more out of it than you would by just doing reps all your life. But wait, there's more. What if you held it as long as you could and then fought it all the way down, as if

your life depended on it? Well, I'll tell you what if. What you've done is a full-range positive movement, a severe overload hold, and a full- range heavy negative. Now squeeze it back up and repeat with the other hand. If you have one of those machines that costs big bucks, quit griping about the price. Use it this way and you'll get your money's worth out of it—and probably a lot more.

Work on a way to shorten the stroke when needed. A shorter stroke is just what the doctor ordered sometimes, especially when you get addicted to negatives. You'll want a pretty good range, but not fingertip range. I never did worry about the really wide open-hand position too much. I was not interested in gripping large-diameter objects. I just wanted to kill the grippers. When I did reps on my plate-loader, the positive movement wasn't even counted for anything on the scorecard: just the hold and the negative part were counted.

Sometimes I trained on the grip machine by just doing more reps: when I reached 385 on the plate-loader and didn't feel like doing more weight, I would just do more reps, only counting the negative, of course: 50 to 60 negatives with each hand, the base amount being 50, meaning when I did 385 for 50 reps with each hand, I would consider this "being up to 385 for 50 on the plate-loaded grip machine workout."

The next time I used the machine, six or seven days later, the workout would have to be 390 for 50 reps or 385 for 55 reps. The next workout would need to be 395 for 50 or 385 for 60. When it gets up to 60 reps, I go up in weight, no matter what, and start over at 50 reps with each hand. After all, I've given myself an easy out for the last two grip machine workouts by just doing more reps, and now—time's up. Get real and add the measly 5 pounds and squeeze that thing like you want to hurt

it.

TRAINING WITH INJURIES

One important thing to know is what to do when you have injuries but you still want a grip workout. If the injuries are on the skin—torn calluses and splits—you're still in business. Just do cheat reps and holds for time. Holds for time can be used for conditioning and variety, or for when you're injured. They work just as well on grip machines as they do on grippers. They'll give you a chance to work the muscles while protecting skin injuries from most of the wear and tear that would normally occur.

Remember, if you're keeping score on your workouts (and you should be—weight, reps, tonnage—we'll cover that later), the holds-only workouts will be difficult to score. It's up to you to make sure that you're honest with yourself and to see to it that you get what you set out to do—or at least admit that you didn't. Only you know when you've done enough. Holds are hard to score and you're the scorekeeper. I hope we can trust this feller.

WORKOUT SCHEDULE

My workouts were either with the plate-loaded machine or the grippers, rarely both at one time: I alternated the grip machine workouts with the gripper-only workouts. My schedule was weekends and Wednesdays: one gripper-only workout during the weekend and a grip machine workout on Wednesday night. You might do better mixing it up some, and maybe involve more than one type of machine, or maybe do some holds for time.

My gripper workout (with the extended handle) or my grip machine workout (with weight) pretty much followed the same

pattern; I'll describe my gripper workout and you'll get the idea.

GRIPPER WORKOUT

During the weekend, usually at night, I would do a gripper workout that lasted anywhere from an hour to an hour and a half. There were days that I didn't feel too good, but what can you do? You can't hire somebody to get strong for you, so I did it anyway. Sometimes it lasted over two hours. *I would do more weight or more reps every time—no matter what.*

Whatever you do, make sure you keep score: you need to know exactly what you did last time (I'll show you how to keep score below). Assigning yourself a workload and making sure it gets done is what will guarantee your success. Without it, you won't be able to judge your progress. You'll start to think every time you get tired or start to bleed a bit, "That was pretty tough, that ought to be plenty. That was a good workout." I don't think so!

All my reps were done as singles, and no attempt to have a set and rep scheme was ever considered; only the total tonnage at the end of each workout was regarded as important. Take breaks as needed, but don't leave the area—you don't want to get distracted.

"What's tonnage?" you say. Let's take 385 for 60 reps with each hand: that's a total of 46,200 pounds. That's some tonnage, son, but hey, we're up to 60 reps now, so next time it'll have to be 390 for 50 reps; that's only 39,000 pounds. What a relief. It's like a day off, isn't it. Soon you're up to 390 for 60 reps and your tonnage is up too, to 46,800 pounds. This is the way to make gains, this is quite a total. Compare this total to your biggest workout, yes, even squats and deadlifts. Remember, we didn't even count the positive side of the

movement when using the grip machine. Here we are at more than 23 tons, using what are probably the smallest muscles in your body ever to be targeted for exercise. We're blowing every other routine and total right out of the barn. Maybe this is what's wrong with your squats and deadlifts and benches—just a thought.

Anyway, I guess you can tell I'm a firm believer in high volume and high tonnage. This was not as much fun as lying on the couch, but it produced a lot of strength. This was the only way for me. When I did low volume workouts, there wasn't much going on, but when I increased the volume, the strength just kept coming. Those of you who can make consistent gains with low volume workouts should consider yourselves lucky. You've got it made.

A typical gripper-only workout would start with a brief warm-up and stretch and then just a few full-range reps with an easy gripper.

Next we go right to work on the grippers: slide the extended handle on the gripper you're trying to close and with the whole thing stuck in the hole in the wall, we start. Remember, just hold on to the outside of the spring (making sure that you're wearing that thick glove on your hand for protection). Now, using a combination of body weight and your grip strength, you cheat the gripper shut and hold for a count of two or three, maintaining a pretty good hold on the spring. Test yourself on every rep to see how much of the cheat (body weight) can be removed once the gripper is in the closed position. When you do release the gripper, don't relax your hold on the spring until you're almost to the fully open position. Now, the other hand gets a try at it, same thing: one hand and then the other until you've done fifty or sixty reps with each hand.

You're forcing the gripper shut and holding for a good two or three count—hopefully—and, of course, working the negative side of the movement. At first when you cheat the gripper shut, you'll be able to get pretty good holds for time with each rep. That's the pay-off: 50 to 60 reps, each hand, cheating it shut and holding. Of course, as the workout progresses, a count of one seems like a long time, and these hold times will decrease. Yet, every workout was my responsibility, so that every rep that wasn't good enough just wasn't counted. Take a break and try again. If you want real gains, you'll need to do real work. Eventually I was getting a three-count even on the last rep of the workout.

You reap what you sow. Sow good seed (real reps) and you'll reap a great harvest (stronger hands).

Take breaks as long as needed. Have a seat if you feel like it. I would sit down and goof off more at the beginning of the workout than I did towards the end of it.

You need to keep score on yourself too. When I'm keeping score, I use the hash marks instead of trying to write numbers. If you can get to the end of a workout and still write numbers, you aren't using enough weight. Load that thing up! Real reps with real weight—there is no substitute. Get over it. Just keep it very simple and very real.

Y'ain't mad, are ya? I don't mean to offend anyone, it's just important that you understand even though these training tips and tricks may sound good, the workload is still on you. You are the man who's going to move all that tonnage. More weight or more reps every time is the most productive strength-building recipe I know of. The downside is you'll probably bleed here and there, and you might see supper twice now and then.

If you make big gains, you still win. Well, good, you haven't thrown this thing in the stove yet. I just figured you should know the reality of it. Now let's move on.

When working at really high levels of tension (or weight with a grip machine), it seems to me a slow start guarantees a better overall workout, so don't rush it and don't get discouraged if you start to feel tired early on. Take all the time you need. *As long as you do more reps or more weight each time, you're getting somewhere.* We're not pumping up for the beach here, so you don't have to restrict your breaks or any of that junk: this is about getting stronger. If you use your grip workouts to rep out on light to medium grippers, you will get pumped, but so what? The pump goes away and you're not stronger.

Meanwhile, I'm over here at my place taking my time and using the heaviest stuff I can get at the end of my workouts, and I don't have a great pump. The only difference that can be seen would be the occasional bleeding from under the fingernails. Who do you think is getting stronger?

Now you'll want to follow the same basic routine on your grip machine night, or mix up the two in one workout. It's up to you.

SCORING: GOOD REPS VS. BAD REPS

The workout might end up lasting more than an hour and a half. Only count the good reps. Let's compare the good rep, bad rep thing to something where we are not the judge and because of that, we can't cheat.

It's the end of summer and it's time to can beans. Your wife likes to do two loads at a whack because any more than that extends into the next day, and any less isn't worth the mess. Well, two loads are fourteen quarts and that's just about what

one good bushel will make—a good bushel. Now, you could rush through there picking anything that looks like it might be a bean, but guess what happens when she gets them cleaned and starts working them up. She throws out all the bad ones. Then you're back out there picking more and you didn't really get too far trying to save time. You see, her finished product relies on both the amount of beans AND the quality of the beans. If you drag in another load of junk, she'll just dump them, too. Only the good ones count—remember that.

A typical workout score sheet would look something like this. First you have your heading, and for me it was "No. 4 gripper with the handle and two-second holds" and the date. Then I had a line down the middle and hash marks down each side: hash marks in sets of 5 in a column of 12 (60 total), one for the right hand and one for the left.

After the work is done and you've reached your 50 or 60 reps, a long deep stretch is a good idea. You've done the job. You're guaranteed to get stronger because you're doing more weight or reps each time. You're getting what you paid for. It's time to leave your work environment and get back to your life. If you did it right, you won't have any mixed feelings. Don't linger—just walk away. We'll see you back here in a few days.

Hey, if you pick those beans right, you won't have any second thoughts when you walk out of there either.

OVERALL WORKOUT SCHEDULE

You should schedule your grip workouts in a way that not only gives you the time you need, it also protects your grip investment. These workouts will be more time-consuming than most. Plan on it. As far as protecting your investment, what needs to happen here is that any other workouts with exercises

that tax the grip should be on days *immediately after* grip days. I think chin-ups and rows are worse than dead- lifts when it comes to this. Maybe it's the long duration of a set of chin-ups. You might be hanging there nearly a minute. Your brain says, "Twenty-five chins," but your gripping muscles say, "One continuous long grip-destroying rep." Maybe it's the fact that when you're doing long sets of chins, your hands and arms are being starved of blood. Try weighted chins for fewer reps instead of a marathon set of 25. Most importantly, if you must do chins, do them on a day immediately after one of your grip days to give those muscles the most recovery time possible before your next grip day. You'll be investing a lot, so make it your business to protect it. All wrist curls, levering, and other forearm work should be scheduled the same way. You might have to shuffle things around a bit for it to work out, but this scheduling thing is important and it's free. Take advantage of it.

SUPPLEMENTS

You're probably already on some kind of protein supplement, right? Or maybe just a high-protein diet made up of regular food? Well, that's just fine. What's good to know here is that you won't have to eat more tuna or slug down more protein shakes to increase or even double your grip strength. I'm not saying you don't need protein, what I'm telling you is that this job—even if your goal is to double your grip strength— simply will not require giant doses of protein. I did pretty well on regular food. The muscles involved here are small and they're going to stay small. My hands are so thick, they look deformed, but we're still just talking ounces of muscle here.

The thing to keep in mind is that all of the muscles involved in this job, those in the hand and those in the forearm, don't amount to much in terms of muscle mass. The muscles that

close a gripper are NOT the muscles that do wrist curls, reverse wrist curls, or any levering movements. The gripping muscles live underneath the big external muscles. The external ones move the hand in different directions. The internal ones close the hand. The ones that open the hand are somewhat exposed on the back of the forearm, but who cares? We're talking gripping here. When you close a gripper and all the muscles in your forearm seem to tense, it's only that they are doing their job supporting the position of your hand; they are not all working to close the gripper. You won't need to eat three extra chickens a day to support this kind of development, so if you're already on a decent diet that has enough protein in it to support your other training, then relax, you got the protein thing whupped. Myself, I'd eat those three chickens anyway, but that's just because I like them so much.

Seriously, though, with small muscles come small tendons and small ligaments. When you're training these little guys hard, they may benefit from some supplements. There are many supplements on the market aimed at joints and tendons, and minerals seem to be the key here. If you plan on taking your training to the outer limits of human ability (which is a place where I feel comfortable and enjoy being), you may want to consider a good mineral supplement to ensure survival of your tendons and ligaments. I like the liquid ones best. I don't have to wonder if they are dissolving or not. Absorption is almost guaranteed, and I feel as if I'm getting my money's worth.

This stuff is all very boring to me. Let's talk testosterone—sure would be great to have more of that in you, now wouldn't it? But I'm not talking about some illegal stuff made for your horses. What I'm talking about here is the very best, custom-

made test, formulated especially for you—no side effects, no jail time, your hair will stay on you, and best of all, you CAN afford it. Heck, you know if it cost a lot, I wouldn't have access to it. We want the very best and here's how we get it. What we're going to do on this one is to use a home brew. We can get the adrenalin level up to the danger point just by watching the news, right? Well, let's look at how to get the testosterone level up. So far the only muscles we talked about were the small ones. Now we need to involve the biggest of the big. We can use these big fellers to get the little ones what they need—the old squeaky wheel gets the grease thing. Nobody squeaks louder than the muscle groups used in squatting. No other exercise even comes close. Quit looking, it isn't there.

When squatting is used for the purpose of demanding a response from the body, the body gets the message loud and clear. The message must be urgent to get the best response.

If you've got the guts to do this, you'll be able to increase testosterone production starting tomorrow. Here's what to do: we're going to put the body into a state of emergency. Tomorrow morning, BEFORE breakfast, you will do squats. They can be done after you've charged up °n coffee since it has no nutritional value, but don't eat ANYTHING: no orange juice either, no nutrients of any kind, got it? You need to go out there on zero nutrients to force the body to produce. If your body does not sense an emergency, there's no way it'll turn loose the hormones.

You'll be fine. Get out there and do a real squat workout—it won't feel good, but you'll live through it. Your body will produce the most testosterone it possibly can under these conditions. Make sure you use real weight in this workout. Your body will sense an emergency and produce whatever

amount of hormones it thinks will be required to get out of this thing alive.

There is something to be said for "listening to your body," but it's not good. If you're in pain from injury or at risk of injury, you should listen to your body. If your body's just telling you it's tired or lazy, you're faced with a choice. Your body doesn't want to squat 400 x 20 for breakfast, but that may be what you need it to do so it'll produce. Under normal conditions, an adult man's body does not produce one bit more testosterone than the body needs to maintain itself. That's why we need the self-inflicted state of emergency: this will cause the body to release its reserve of testosterone for you. Every time you subject the body to this kind of trickery, the results improve. After a while of this kind of training, I could feel the increases in strength on a regular and predictable schedule. My body didn't want squats for breakfast, but my grip training needed the boost. I didn't listen to my body—I made it listen to me. Who's in charge here, anyway? If I listened to my body, I'd end up on the couch watching TV.

I like to do one long set of 20 to 30 heavies—yeah, that'll get things working. I would charge up on coffee and go get my testosterone supplement. Standing there in front of my homemade squat set-up, thinking to myself, "I can use this junk to make test, I want it and I'm taking it right now," I'd come up from the bottom so hard, the bar would bounce on my shoulders. You can't wait for life to send you the gains you want. Get out there and MAKE it happen. That's why they call it "making" progress.

The main focus of the stretching I used for the early morning squats for breakfast program was on the spinal erectors, with a lot of long and slow bending and stretching for these fellers,

followed by a few make-believe squats. On the fake squats, I'd stay at the bottom position for a long time and really take it slow. This movement, along with the bending side to side for the erectors, pretty much took care of it. As I approached the bar, I'd throw in a few shoulder rotations and some neck stuff, and then it was time to go to work! I would do the first few squats slowly and build up to squats that would bounce the bar off my back. My squat workouts were for a very specific reason: I knew that was where the testosterone was coming from, and I *made* sure I got my full share every time. You notice the word "made" in there? You can't sit on your butt and wait for life to issue you huge doses of testosterone, you got to *make* these things happen. Good things might come to he who waits . . . some good things. Not testosterone, no. This stuff comes to him who busts his butt every morning while the rest of the world is still scratching itself. You know where it comes from, now get yourself some.

Everybody who joins the service does physical training before breakfast when they're in boot camp. They live through it. They do jumping jacks, push-ups, sit-ups, and they run. So don't worry: you'll live through it, with a good spotter, that is. You'll get better every time too. What you're actually getting better at here is making your body do what YOU want it to do and produce what you need. If you're already on a squat routine like this, meaning high-rep, very little has changed: you just do them on an empty stomach, first thing in the morning. An empty stomach in the middle of the day just isn't the same because you've been eating those chickens all day long, and your body's full of nutrients. Do it right, first thing in the morning. That way, you'll get the added bonus of daily doses of test, with free home delivery.

You won't miss out on the growing that we do squats for in the first place, either. You won't miss out on anything. As soon as you're done- and can breathe again, you'll be right back in the house gobbling up breakfast, no problem. If you're not already on a squat routine like this, you're missing out. You've probably heard squatting makes you strong all over—well, they weren't lying. Testosterone makes you strong, and squatting this way makes testosterone. This is as simple as making mud, and it's free; get some. Get the *SUPER SQUATS* book from IronMind, and get strong all over.

THE WORK ETHIC

Work pays, so we keep going there and doing it. Exercise, on the other hand, we tend to treat differently. There's a problem here and we're going to sort it out right now.

Nobody gripes and howls when their pay is short from taking days off. You worked less and you got less, that's fair enough. Why is it then that these same folks act like they can't figure out what the problem is with their training? The answer is *denial*: nobody wants to admit they've been slacking off. They need to just get over it and quit trying to fool me. Most importantly, they need to quit trying to fool themselves. Your progress is akin to your effort and planning. They ARE a mirror image of each other. Unless you have a real physical handicap, expect no pity from me.

Look at training this way and see if it helps; remember, work pays and exercise just makes you tired. Let's say we have our next workout laid out, and it's going be a real killer. We need to do 60 forced reps using the No. 4 with the metal ground off the handle, each hand, of course. This could prove to be just plain horrible. You need to keep in mind that you're not putting out,

you're getting. Don't look at this workout like exercise, look at it like your job, and if you don't do your job, you don't get paid/strong. Don't let anything stop you, because you know if you don't do it, you will not get paid/strong. I know you can do it. You might have a job you hate, but you keep going. This is really simple to figure out: this workout will pay, too; it will pay well.

THE MIND GAME

This brings us to the next subject, the mind game. Don't be scared of the mind game—you'll be in full control at all times. This is just another way to get our bodies to do what we want.

Try this one first: We can always hire somebody else to do it for us, right? Well, not really, but you can look at that workout and treat yourself as if you are someone else, someone who has been hired to do this job. Of course you are the one in charge, but just play with the idea and make believe the guy you hired is someone you really don't like too much in the first place: "Here's the job. Just get it done. No, I don't want to hear any of that," and, most importantly, "Nobody gets to leave until this is done." Treat it like work and it'll get done like work. This guy you hired (yourself) might gripe and howl a little bit, but so what? He works for you and you want this job done. Just put him to it and show no mercy.

The second one I call creating a state of emergency: this might not be good for your nerves or something like that, but I used it extensively throughout my training and haven't noticed any damage. Consider this: you're probably aware of the difference between your strength levels when you're relaxed and when you're furious, right? Well, don't be afraid to use a self-induced state of emergency during your training. Now, I

don't want to read about you in the newspaper, so please go easy on this stuff.

I'm not telling what particular thoughts I used to create this state, but you can be sure they weren't pleasant and it worked great every time. Everyone has something that will work for them, but here again, tread lightly in this area so you don't wind up committed or worse. Here's one that shouldn't result in any permanent problems: imagine you're rescuing someone from a really bad place. None of this will work if you're hanging out with the guys while you work out. Remember the section on the work environment? Here's where that stuff pays off. Now, you're rescuing this person in your mind and the only way to do it is to keep on squeezing this thing over and over. The radio's already been destroyed and you ran everyone else off, so it's just you and your time. Use your imagination and see what kind of state of emergency you can muster up.

This process has been taken to very high levels and the results were great. Sometimes I would work out so hard there would be blood coming out from under all of my fingernails by the time I was finished. I would keep myself in a state of emergency the whole time. Of course, this wouldn't be a good time to stop in and chat with me, but the work sure got done and the results were great. Yes, I was in a rage, but I wasn't screaming or anything. The guy who said, "Let it out, come on, talk it out," and so on was wrong! Don't talk it out, don't let it out. Use that stuff where it'll do you the most good: bring it to your workout and make a dent in the world.

The buffer zone: make sure you allow yourself a few minutes to cool off and return to the sociable feller you once were before heading back into the house. If you really get deep into this stuff, you may need more than just a few moments. Let

that heart slow back down to normal. Running these little film clips through your mind in order to be the "psycho" grip guy is great, but don't subject your family to any of this stuff. These are your "tools" t you use to make great gains with. They are not dinner table material. Only you will know how many people you saved or how many bad guys you took i of during your little training session, and this is the way to keep it.

FORCED ADAPTATION

You can force your body to adapt. I know you can do it. You've done it many times before. This stuff isn't as mysterious as people would lead you to believe. We'll take a quick look at how it works, and you can build on this to suit your own situation.

Everyone has grown a callus or two in his life. This is an adaptation by your body to *protect itself*. You need to understand what the body is doing and what the body's priorities are if you want to have success. The body always tries to protect itself. When you feel a burning pain from the sun, your body is telling you something: maybe time's up and you should head for the shade now. When there is a virus in your body, it doesn't take long to see how the body protects itself, trying to expel what it considers to be poisonous and harmful. Perspiring to cool off, eyes watering heavily in an attempt to protect themselves, and so on, there are many examples of this that we could review, but I think you get it. The best part of the body's priorities, the part we can and must exploit, is its insistence on restoring itself. This is a wonderful thing for the strength guy. You know the cycle: you shave, it grows back; the more you shave, the quicker it grows back—and thicker too. So, we have the body's two most important priorities figured out: the body strives to protect itself and to restore itself. We can

use these natural tendencies to our advantage. Remember, your body doesn't have the same goals as your mind does. Your mind wants to close the No. 4. Your body wants to be left alone.

Remember the old movie line, *what we have here is a failure to communicate?*[1] The body sends us signals: I'm hot, I'm thirsty, I'm hungry. WE give it what it wants, but we fail to send IT signals so that it will give us what WE want.

Back to the calluses, you got lucky on them. Your body produced them because the danger of injury was obvious. Your body protected itself from your mind's idea of how much wood a man should split in one day. Do you realize what you just read? That's right. He's saying the body will adapt in order to protect itself from what the mind puts it through. We have the basic idea of what can happen, but what can we do to make it happen for us, in grip training or any other strength sport?

The answer is simple. We must communicate the correct messages to our bodies. One time my nephew was asking about my extreme training methods, and I told him, "It's like this: once your body is convinced that it will be destroyed if it doesn't start to get stronger, it will adapt. It doesn't want to adapt, but it's stuck with you. It may be convinced that you're insane, but it's stuck with you, and whatever workload you think you need to do. When I do sixty reps with each hand, I'm really just after the last five or ten. You see, those are the ones that will force the body to adapt. They're the ones no human being has any business doing. All the other reps are just to get the body to that point, the point I like to call the bargaining point. This is where the mind and the body are doing battle. The body has communicated all of its messages by then: we're tired, we're sore, we're trembling, and all that stuff. This is where I win, because the mind isn't done working out yet.

"These last few reps are where all the gains come from because this is the part where the body thinks you'll surely kill it this time. But you don't, it doesn't die. It learns from this—not how to get stronger, it already knew how. It just wasn't going do it unless it had to! Now that it knows it could very well die from what this mind subjects it to, it has no choice but to adapt, and that adapting is what we call getting strong. If you're great friends with your body, you won't have much success. What you need to do is to put the body in such a state of emergency that it thinks it's the end, and do it on a regular basis.

Twice a week works for me. My body is working full time trying to protect and restore itself. It never knows what's coming next because I always do more weight or more reps each time. It can't fall into a routine because no two workouts have ever been the same. When I say send the body a message, I really mean send the body a warning. A warning that it just gets worse, we're going to do more and more and more. Then it WILL adapt."

He didn't come right out and say he thought I was crazy, but that's probably just because he's kin.

THE NATURAL ORDER OF THINGS

This little bit will be like an overview of what was just discussed, but still might be worth reading. The natural order of things just isn't good enough when what you're after is unnatural. It's not natural to be able to burst a can of beer. It's fun though. It's clear what we want is an unnatural level of strength; this is why extreme measures must be taken. Remember the work ethic: your results are a mirror image of . . .

You won't get too drunk eating corn. Somebody wanted to get drunk, though, and they used corn to do it. They mashed it, they strained it, they cooked it down, and they distilled it. When they were finished, you couldn't even tell what they started out with. Scaring the heck out of your body to force adaptation will not be the first time man has tinkered with the natural order of things. You can get blown up making whiskey. You might have a few tough days training, but the chances of being killed outright are slim.

Keep this in mind: if you listen to your body, you'll end up lying on the couch getting fat. If you make your body listen to you, you'll be much happier. Determination and guts don't come from books. You've got to rely on yourself for that stuff. You might be inspired or encouraged by something you read, but in the end, it'll be up to you. You'll be fine. If you've read this far and haven't thrown this thing in the stove yet, you definitely have determination and guts. I applaud you. Good luck in your training.

EXAMPLES OF TOUGHNESS

I used to know a man who could lift a fifty-five gallon barrel of diesel fuel into the back of a pick-up truck. He didn't do it for sport, he did it because his situation demanded it. At first he couldn't lift a full barrel, but after pouring and spilling, and pouring and spilling some more, over the years, he got to the point where he could lift these things so easily that it was boring to watch. He would knock them over and them grab them by the rims and clean them up to chest level. Before the upward momentum had stopped, he would give them a tremendous push forward (this part looked like a standing bench press). He had a lot of power and toughness.

Next, we have my old buddy Bob; this guy could split wood all day long. Regardless of the weather, you could count on him to be there and be ready—this was back in 1979 through 1980. We worked cutting firewood for pay. I would cut with the chain saw while Bob split. He would never stop to rest. He would literally split wood nonstop for more than an hour at a time. Once I got a bunch cut up, I would take over the splitting and Bob would start loading. The truck we used had a body that was 22 feet long, so trying to throw it in the end wasn't any good—you'd end up with a wall of wood right there at the end and still have to load most of it over the sides. The sides of this truck were more than eight feet above the ground. Bob would kind of stagger around, half bent over, with one hand on a knee while he grabbed the wood with the other hand and threw it up and over the walls of the truck. He'd switch hands and stagger back the other direction. This guy had a frightening grip and shoulders like basketballs—absolutely the wrong guy to wrestle around with. He never got to do ten reps and then take a break; he got paid by how much he produced. You might say he got stronger by accident than most people could ever get on purpose.

Then we have "the tire man." If you get the chance to talk to one of these guys, make sure you shake hands with him: you won't be disappointed. Anyone who has changed tires on big trucks is strong. I'm not talking about pick-up trucks, I'm talking tractor trailer rigs and dump trucks. These fellers work their hands pretty hard. Yeah, they have the whole upper body package if they've been doing it for a long time. Nobody told them to just do two tires and then take a break. They work eight-hour days doing this stuff. He's another guy you don't want to grapple with: he's always got a new injury and

sometimes a short temper. You see, in these big truck tires, because of the loads, there's a lot of heat, and all the heat makes the tubes stick to the inside of the tires. These fellers have to wrestle the tubes out to patch them, which is tough work, and the tire man gets tough doing it. There are no days off to recover between every few sets. Non-stop hard work is life in the worlds of these men.

SETTING GOALS AND GETTING AROUND ROADBLOCKS

Like a lot of things in life, goals can ruin you if you don't manage them correctly. Human nature and, in some cases, competitive drive tell us goals are natural and good. Once again, human nature is right: goals are natural and good. The problems start when goals are mishandled. Set them too high or too big, and you might end up miserable and frustrated. If you let yourself reach your goal, then you're ruined. What we need here is something in between, something more on the line of a realistic starting point and the willingness to make steady adjustments. Here again, just like culling out the bad reps and keeping score, you will need to be brutally honest with yourself. Don't listen to that other guy. You know the one, the guy who's always trying to get you to take the easy way out. Yeah, that's him, the guy in the mirror. Big gains in strength rarely happen by accident. If you put your mind to it and plan for success, you'll have it.

The gripping game is tougher than benching or anything else where weight can be added in small measurable increments. When it comes to goal setting on the bench, 330, 350, and 375 are all legitimate bench press goals. With gripping, the space between the No. 3 and the No. 4 can seem enormous, and there isn't anywhere to stand. It's just space unless you can learn to

create and manage goals. For example, there are a lot of different numbers between a 300-pound bench and a 400-pound bench, right? That's simple. Life is different with the grippers, though; you could completely master one and still just barely be bending the next one. Hmm, this IS different. Well, there really are a lot of different steps in between, if you look for them. They're worth looking for, too, because they're so helpful in this goal-setting business. Looking at the void or space between the No. 3 and the No. 4, we can come up with a lot of different levels that we can use as stepping stones. Now we got some places to stand, places we can use to mark and measure progress. These steps can also be used when moving from the No. 1 to the No. 2 or any other step up, of course. Let's check them out.

LIST OF ADJUSTED GOALS, FROM THE NO. 3 TO THE NO. 4

1. Kinney closes the No. 3 for the first time, and tells himself, "That's fine, but you sure didn't hold it too long." He's just then adjusted and set himself a new goal. This is simple, right? That's why it works, too.

2. He gets up to a five count on the hold, but: "Hey, what about your left hand? That ain't just for scratching yourself."

3. The right hand is good for a ten count anytime. The left hand is now performing almost on demand, but still not dependable. Even the smallest bit of progress is noticed though, since he times all the holds and keeps score.

4. The left hand is good for a five count anytime now and the right hand is the dependable crushing tool I'd hoped it would be: "Hey, where'd you get this thing, out of a box of cereal or something?" Must be the testosterone talking. I paid for that

testosterone by having squats for breakfast while the rest of the world was still scratching themselves. Let it talk a little.

5. From here on, things go pretty much as planned—because we have a plan. What about grinding the handles together? It's still tough to do with the left hand, but with the right hand it's really easy. This convinces me that I'm getting somewhere every time.

6. The left hand has grinding the handles as its goal. The new goal for the right hand is to slam the No. 3 shut so hard you can hear it clack together every time you pick it up. Don't forget to grind those handles.

7. Next we have the grippers that had some metal ground off the handles, remember them? They were discussed in the gearing up section. If you made any of them, now is the time to use them. Remember, what we need are a bunch of little stopping off points to use to prove to ourselves that we are *making* progress. Even though adding them in here now might *make* it look as if you're moving backward in terms of closures and holds, you're not moving backward at all. You're really moving forward at a steady pace. This gives you many small goals between the level you're starting at and the level you're looking at.

8. Finally, and because that's the one I don't like to do, we have simply repping out. If you can use sets and reps to make progress and to monitor progress, they might be the right thing for you. Be creative and try to beat your last performance every time, even if it takes a longer workout.

Whenever testing yourself, it's critical that you give a hundred percent. You might feel worse physically afterwards, but you'll feel great mentally knowing you've come closer and

closer every time—and knowing that your workouts have paid you back.

Suddenly there are lots of steps between the No. 3 and the No. 4, and we're not lost anymore. A No. 4 with the handle ground for more range can be a tough little monster. That's a good thing when you need it to add in here and there to keep yourself going the right way. You could use just the No. 4 and guts, but adding some ingenuity makes things go a lot smoother. All of these steps we went over can be done with the handle extension and then done again without it. You know the road now: small but steady steps.

Many of these little steps will be encountered during your regular workouts here and there: the cheats, the negatives, the holds. When used as stepping stones, they will be noted as steady progress, so you are never stuck at any level. You can claim success and progress just by adding a couple of seconds to your holds or by adding a rep here and there. These small gains might not seem like much to some folks, but when you're standing at the No. 3 and looking at the No. 4, you want all the encouragement you can get.

Only you can keep this thing going, so use every little stepping stone you can. Make constant adjustments to your goals. Remember the story about the mule chasing the carrot. He would walk all day chasing that carrot on a stick. If you ever let him get the carrot, he's done working, and he'll stop walking. If you let yourself reach a goal, you will trick yourself into thinking you're done working. This is disaster.

Don't let this happen. You'll start to wonder what you're doing out here and why. It's critical that you constantly adjust your goals so that there's always a little bit more you need to do

—not a lot, just a little bit, very small adjustments on a steady basis. After a while, you'll be able to look back and see that you've come a really long way, one little step at a time. Hey, that's how that mule was moving too. It just makes things go so much better when your goals are only a little more than what you're at now. Even if you think this is all fertilizer, you'll probably go through most of these stages anyway. Why not use them to help yourself?

That's why they call it *making* progress: you've got to make it happen. But, don't worry, you'll do fine.

A PARTING WORD

By now you've probably got a pretty good idea of what I think must be done to ensure success. All of what you've read here is based on personal experience: these things are real. They are not suggestions from someone who has "learned all about gripping" from the Internet. Watching someone run fast will not improve your speed. Watching me train will not improve your strength. You need to take advantage of the information that is being presented and use it to change yourself. The mind game information alone should be enough to make a big difference in your progress. Of course, this is only an opinion, but it's my opinion, and I think it's right.

Anyway this is the end of my section of the book, and we're about to part ways. You know I want the best for you. I'm not one to hide training secrets. What you've read is how I did it. The level of intensity at which you train might be different from where I was, but these are the techniques that I used. When these methods are combined with heavy doses of ferocity and determination, the results can be shocking.

I always trained at a high level of intensity. Working at the

extreme outer limits of what my body could survive just seemed like the way to go. It didn't kill me, it made me stronger. Some famous old-timer said something like that way yon back in time. He was right. Of course, I don't want you to injure yourself; I just want you to know what has been done and to realize that you can do it too.

I would treat each workout as if it was mortal combat, a life and death struggle. Yeah, the intensity was definitely up there. I didn't "do" my workout, I went to war against it, and never considered surrendering. I was the conqueror—every time.

Yet, no matter how strong we get, we must remember to humble ourselves before God, because compared to Him, we're still nothing. If you're inclined to, give this a try. Best of luck to you.

Chapter 6: The Holle Method for Training and Succeeding With the Captains of Crush Grippers

by Nathan Holle

None of us [Nathan Holle and his brothers Craig and Gavin] has ever done a warm-up. We don't think that there is any harm in a warm-up; it is just that we always just tore straight into our training. As the months of training have gone on, I now find that I need to remove the "clicks" and stiffness from my hands. Making a fist as tight as I can or a close of the No. 3 does the trick. We would advise people to do the minimum warm-up they can get away with and still train at their peak.

Nathan Holle (l.) and his brothers, Gavin (c.) and Craig (r.). Randall J. Strossen, Ph.D. photo.

If a gripper is easily within the reach of someone, then virtually any regular training will eventually get them there. Our current gripper routine takes about an hour; we train grippers three times a week, Tuesday, Thursday and Saturday, and sometimes we will train on Sunday as well.

I know it sounds a bit silly to tell people how to chalk their

hands, but if you do it correctly, it can greatly aid your training (although some hands can perform just as well without chalk). Our technique on the grippers requires only the palm to be chalked (so that the fingers can slide over the handle), in a band across the hand at every point where the handle will be in contact with skin. Rub a little chalk into the hand and them remove as much as possible with a cloth, re-chalk before your first attempt, and then whenever you need it.

When you position the gripper in your hand, you are looking for a spot to anchor the handle securely, as far up towards the fingers as comfortable. If you make an open fist with your hand, you will see that the first bone of the fingers can only close to about a 90-degree angle to the hand. If the gripper handles are not closed when your fingers have reached this point, the gripper is never going to shut no matter how strong you get. In practice, the optimal position unique to you for maximum power could be a few millimeters closer, so that the fingers never make it to 90 degrees before the handles touch.

We place the gripper so that the bottom of the handle is on the first line in the palm just below the knuckles, and the top of the gripper is securely against the thumb pad. Also we place the gripper so that when we squeeze, we get all of our fingers as low down on the handle as possible for maximum leverage: the little finger should be only half on the handle.

All of us find that loads of little things can help anchor the gripper, such as extending the thumb to stiffen the thumb pad and a slight kink in the wrist. You will notice people get a better squeeze if they hold the spring[2] or steady the handle with the finger: this is because the gripper is anchored much better.

When the gripper handle is in the best position in the palm,

the other handle may be out of reach of the fingers, so you have to pull it in with the other hand. To keep the whole gripper from moving back out of position, press on the palm handle with the thumb of the other hand, so you are pulling the handle together with the spare hand using the thumb and index finger, and simultaneously squeezing with all but the little finger of the gripping hand. When you are "set" in the correct position, remove the non-gripping hand and squeeze in one swift motion.

When training, set the gripper very deep, that is, until the handles are about 5 mm apart and squeeze from there. When you can close the gripper easily from this range, move on by setting the gripper a little farther out. It seems to us that as long as you can get some movement in the attempts, then you are on the way. We try to condition ourselves to give the attempt everything within a few seconds—finding that it is pointless to prolong the squeeze—so that you have completely given each attempt 100%. We have found singles, with a good few minutes rest between them, to be the way to go. We do 4 to 6 attempts. This is based on good days and bad days (a bad day could be anything—an injury, feeling tired, etc.). Let's say you're "setting" the gripper to 10 mm but only moving it to 9 mm for the first 4 attempts; then there is little point in doing any more. However, if you are getting a good movement (say, down to 3 mm) on the gripper on the first 4 attempts, then go for 6 attempts. We try to limit the amount of singles to what is necessary. We have found using high numbers of attempts to be pointless, and you make yourself more injury prone.

If people can't see a form of adding resistance or progression, they seem to be lost. In our opinion, the best form of progression is to develop the discipline to give every single

attempt your all. To give an example of how all this comes together:

1. Chalk up (re-chalk whenever needed).

2. Do one close of a gripper to remove "clicks" from your hand (or if you prefer, do a warmup).

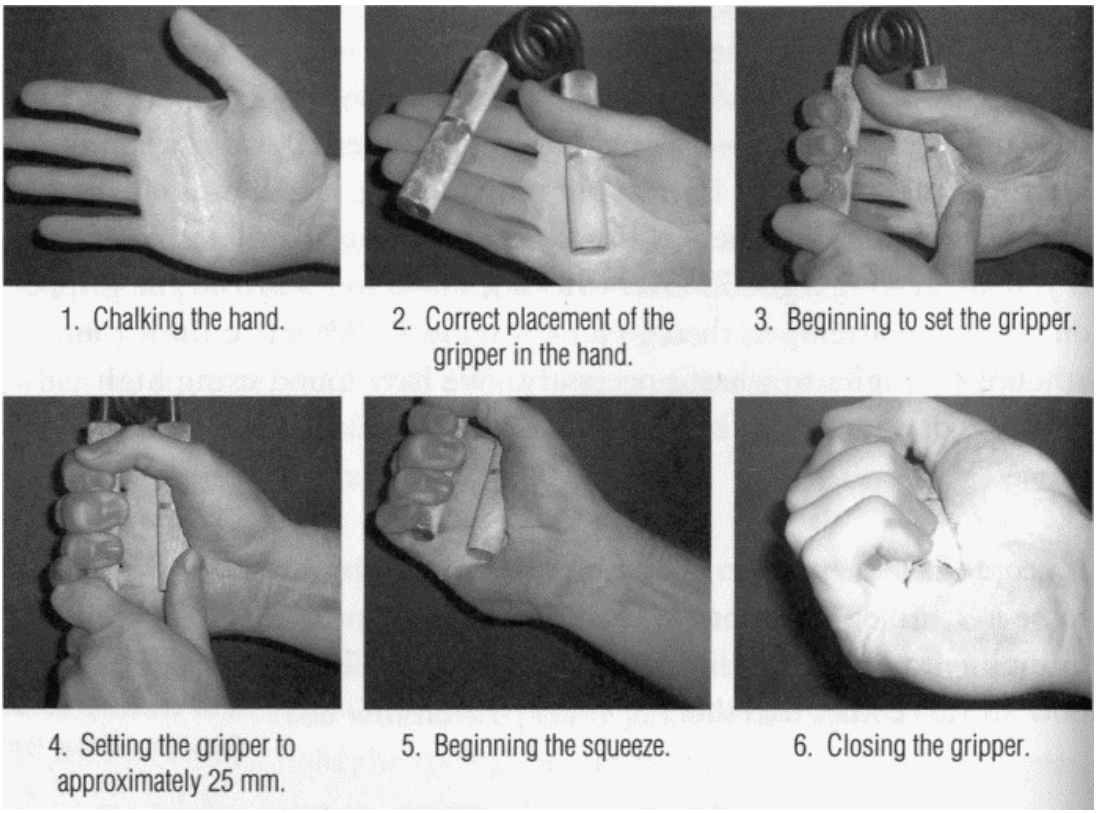
3. Then using the gripper you are currently trying to close, set the gripper deep to about 5 mm and squeeze; take 4-6 attempts.

4. Then using a gripper you can close: set the gripper as far out as you can close it and squeeze; take 4-6 attempts.

5. Do this for both hands. You should train the left and right hand straight after each other, so it is 1 attempt with the right hand and 1 attempt with the left, then rest; and so on.

6. Once you can get all your attempts from 5 mm, next time set the gripper farther out. In our experience, when moving to a harder gripper, you can find yourself in a position where it can take weeks of training to go from setting the gripper to 5 mm at the start of the progression, to achieving a full +25 mm close. This is just as vital and just as productive.

Nathan shows the steps in training with partials on a Captains of Crush gripper—in this case, with a No 4!:



1. Chalking the hand.
2. Correct placement of the gripper in the hand.
3. Beginning to set the gripper.
4. Setting the gripper to approximately 25 mm.
5. Beginning the squeeze.
6. Closing the gripper.

It is not going to be easy and it won't happen overnight. We all have trained very hard and have tried many methods. Between us we have a combined knowledge of 10-plus years, and we have found that using the above training method has been the most productive and beneficial.

Below is one of Craig's recent training sessions; both hands are trained, but only the right hand is shown:

One close of the No. 3 to remove "clicks" from hand

Attempts at the No. 4, aiming to "set" to 15 mm (all measurements made by Nathan and are all approximate):

Attempt	Set to	Squeezed to
1	15 mm	7 mm
2	13 mm	3 mm
3	15 mm	5 mm
4	17 mm	6 mm
5	19 mm	6 mm

Close the No. 3 as fast and as hard but under control, aiming to "set" to 25 mm or above (all measurements made by Nathan and are all approximate):

Attempt	Set to	Squeezed to
1	30 mm	Closed
2	33 mm	Closed
3	29 mm	Closed
4	35 mm	Closed
5	30 mm	Closed

Duration of grip training: 63 min.

Appendix 1: Captains of Crush® Grippers: Rules for Closing* and Certification

RULES FOR CLOSING*

First, you have to be able to fully close a No. 3 or No. 4 Captains of Crush gripper according to the following rules:

1. The gripper must be an authentic IronMind Enterprises, Inc. Captains of Crush® gripper.

2. The gripper cannot have been modified or tampered with in any way.

3. Chalk (magnesium oxide) may be used on the gripping hand, but rosin, tacky, etc. are specifically disallowed.

4. The free hand may be used to position the gripper in the gripping hand, but the starting position can be no narrower than the width of a credit/ATM card, and the gripster must show the official that he has an acceptable starting position by using his non-gripping hand to slide the end of a credit/ATM card in between the ends of the handles. Once this is done, the official will give the signal to remove the card and begin the attempt. Any contact between the non-gripping hand and the gripper as the card is being removed will invalidate the attempt, and the non-gripping hand must stay at least a foot from the gripping hand at all times during the squeeze. Similarly, nothing may be in contact with the gripping hand or the gripping arm from the elbow down (for example, the free hand is not allowed to steady the wrist of the gripping hand or hold the spring, etc.). The entire squeeze must be clearly visible to the official: the gripper cannot be closed while blocked from view and then turned and presented as already closed.

5. The gripper must be held with the spring facing up.

6. The handles must touch completely.

*The Rules for Closing are subject to modification, so please check our web site (www.ironmind.com) for the latest details.

How to Get Certified for Closing a No. 3 or No. 4 Captains of Crush® Gripper

You've just closed a No. 3 or No. 4 Captains of Crush gripper according to our Rules for Closing and you want to be certified. What do you do?

First, review the Rules for Closing (see above) just to make sure that you are closing the No. 3 or No. 4 Captains of Crush gripper under the proper conditions.

Second, please make sure that you can consistently close the gripper. If you have only closed it once, you may not be able to close it the next day, or more importantly, on the day you are to be verified by your witness. Wait until you have mastered the gripper, so that when you do close the gripper in front of your witness, all will go smoothly.

When you can close the No. 3 or No. 4 Captains of Crush gripper regularly according to the Rules for Closing and feel that you are ready to be certified, you will need to do the following:

1. Contact IronMind Enterprises, Inc. at sales@ironmind.com or at 530-265-6725 and let us know that you are ready to be certified. We will ask you if you can readily close the gripper and take your name and address. We will then find a judge/witness who is in your area to verify the closing, and notify you of that person's name and contact information. This may take several days. You will contact the judge, who will be expecting to hear from you, and set up a mutually convenient time to get together.

Note: Please contact us only when you are ready to be judged—that is, please hold off if you are a quarter-inch away, or you maybe closed your gripper once, as we cannot line up your judge/witness unless you are ready to be officially witnessed.

Also, please do not line up your own judge as we will not be able to use the information. One of the ways we maintain the integrity of the certification process is by using objective, credible contacts to be witnesses.

2. Print out a copy of the Rules and Verification form (go to http://www.ironmind.com/ironcms/opencms/IronMind/main/captainrules.html) and take it, with a stamped envelope addressed to IronMind Enterprises, Inc., PO Box 1228, Nevada City, CA 95959, to your verification. The judge/witness will complete the form and return it to us.

3. You'll need to provide two photos; they can be color or black and white:

a. A photo (at least waist up) of yourself.

b. A photo of you closing the No. 3 or 4 Captains of Crush gripper according to the Rules for Closing; the photo must show your hand closing the gripper, with the ends of the handles in plain view, so we can clearly see the No. 3 or No. 4 stamped on the bottom; the handles must be touching.

4. Write a couple of paragraphs, telling us your age, weight, and height, where you're from, what your work and interests are, and something about your training and goals, and any other related accomplishments you would like to mention.

Send us your photos and bio, either by e-mail (the photos should be in .jpg or, tif format) or by regular mail.

When we have received your signed verification form, the

two photos, and the bio, and they are all complete and in order, we will process your certification and feature you in the “Captains of Crush® Grippers: Who’s New" section of the next issue of MILO: A Journal tor Serious Strength Athletes. You will also receive your certificate, and your name will be added to the Captains of Crush: Who’s Who list on our website.

Please let us know if you have any questions about how to become certified for closing a No. 3 or No. 4 Captains of Crush gripper—and best of luck with your training!

1. From the Paul Newman classic, Cool Hand Luke.

2. Warning: there is always the possibility of breakage in a hand gripper. If you are training by holding the spring, we recommend that you wear a heavy leather glove on your "holding hand" to protect it in case the spring breaks. For your own safety, always assume that the spring is about to break and act accordingly.